Mental Health Advisory Team (MHAT) V

Operation Iraqi Freedom 06-08: Iraq
Operation Enduring Freedom 8: Afghanistan

14 February 2008

Office of the Surgeon
Multi-National Force-Iraq

and

Office of the Command Surgeon

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and

Office of The Surgeon General
United States Army Medical Command

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1. OVERVIEW

1.1 Introduction

The fifth Mental Health Advisory Team (MHAT) V was established by the Office of the U.S. Army Surgeon General. Historically, teams have been formed to support requests from the Commanding General, Multi-National Force-Iraq (MNF-I); however, for MHAT V the request from MNFI-I was augmented by a request from the Service Chief, Army Central Command (ARCENT) to examine Soldiers in Afghanistan and Kuwait. Therefore, unlike previous years, the current MHAT report contains two separate reports – one for Operation Iraqi Freedom (OIF) which includes a section on Soldiers in Kuwait, and one for Operation Enduring Freedom (OEF).

The OIF and OEF reports are independent and designed to be stand-alone documents. At the same time, there was close coordination between the OIF and OEF teams. Both teams were staffed primarily with personnel from the Walter Reed Army Institute of Research (WRAIR) and its subordinate unit, the US Army Medical Research Unit – Europe (USAMRU-E). Both teams used virtually identical assessment tools; similar analytic strategies, and collaborated in the writing. For these reasons, there is also a great deal of similarity in the two reports.

One key outcome of the coordination between teams was that the OEF report uses OIF data to help interpret and draw inferences from the data collected in Afghanistan. This was done because OEF had only one previous MHAT data collection (in 2005), and many of the responses on the surveys need to be interpreted in a broader context – comparing OEF to OIF provided this context. Readers of both reports may occasionally note small discrepancies in the values reported for OIF 2007 between the OIF and OEF reports. These differences reflect the fact that it was often necessary to adjust values for demographic and other sample differences in order to clearly delineate findings. For example, Soldiers in the OEF sample had deployed an average of 7.7 months while Soldiers in the OIF sample had deployed an average of 9.4 months. To help compare combat experiences in the two theaters, it was therefore necessary to normalize time and provide adjusted values as though both groups had comparable deployment lengths (9 months).

To illustrate how the adjustments may have changed values, note that in the OIF report the raw value for receiving small arms fire was 57.7% (Appendix C: OIF Report) while the adjusted rate in the OIF report was 59.3% (Table 5: OIF Report). In contrast, the adjusted rate in the OEF report for OIF Soldiers receiving small arms fire was 59.7% (Table 8: OEF Report). The differences in adjusted OIF rates in the two reports (59.3% versus 59.7%) reflect that the adjustments were based on different samples – the OIF report adjusted OIF 2007 relative to the 2006 OIF data, and the OEF report adjusted OIF 2007 relative to the OEF 2007 data. As authors, we felt that the potential confusion of reporting values with minor differences (e.g., 59.3% versus 59.7%) was offset by being able to adjust for demographic differences in the samples that could otherwise obscure substantive differences. Readers should note that great care was taken to provide accurate numbers. Specifically, all reported values in both reports were run in the statistical language R (R Core Development Team, 2007), and replicated by a second member of the research team using the Statistical Package for the Social Sciences (SPSS).

1.2 Combined Findings and Recommendations

Both of the reports have executive summaries providing key findings and recommendations specific to OIF and OEF. Many of the theater-specific recommendations were immediately implemented based on in-theater outbriefs to the medical and operational leaders. For instance, in OEF the distribution of Behavioral Health assets was completely changed based on recommendations from the OEF team. The following summary provides key background, findings and non-theater specific recommendations from the larger reports.

1.2.1 *Background*

During October and November of 2007, MHAT personnel deployed to Iraq and Afghanistan to assess the mental health status of Soldiers. Recommendations are based on:

- 2,295 Soldier well-being surveys from Operation Iraqi Freedom (OIF)
- 699 Soldier well-being surveys from Operation Enduring Freedom (OEF)
- Focus group interviews with Soldiers
- Surveys and interviews with behavioral health, primary care and unit ministry team personnel.

1.2.2 Central Findings from OIF

a. Mental Health and Morale. The percent of Soldiers screening positive for mental health problems is similar to previous years (17.9% for a combined measure of acute stress, depression or anxiety). Reports of unit morale showed a significant increase from 2006.

b. Combat Exposure. Reported levels of combat exposure varied significantly among units; however, there was an overall decline in reports of combat. The decline was most pronounced among Soldiers deployed 6 months or less.

c. Behavioral Health Care Delivery. Compared to 2006, Soldiers reported more difficulty accessing behavioral health services, but lower stigma associated with seeking care. Behavioral health personnel reported a shortage of behavioral health assets and higher burnout.

d. Role of Behavioral Health Officers. Behavioral health personnel reported significant increases in advising commanders about Soldier mental health issues.

e. Deployment Length. Reports of work-related problems due to stress, mental health problems and marital separations generally increased with each subsequent month of the deployment. Reports of mental health problems declined in the last third of the deployment likely due to redeployment optimism.

f. Multiple Deployers. Soldiers on their third or fourth deployment were at significantly higher risk than Soldiers on their first or second deployment for mental health problems and work-related problems.

g. Concussions. In all, 11.2% of Soldiers met the screening criteria for mild traumatic brain injuries. Less than half of these (45.9%) reported being evaluated for a concussion.

h. Battlemind Training. Soldiers who received pre-deployment Battlemind training reported fewer mental health problems.

i. Suicide. Suicide rates continue to be elevated relative to historic Army rates. Most suicides involve failed relationships with spouses or intimate partners.

1.2.3 Central Findings from OEF

a. Mental Health. Soldiers in OEF reported rates of mental health problems (acute stress, depression, anxiety) similar to rates observed in OIF MHAT missions.

b. Combat Exposure. Brigade Combat Team (BCT) Soldiers in OEF reported levels of combat exposure similar to or higher than levels reported by BCTs in Iraq.

c. Barriers to Care. Soldiers reported significant barriers to mental health care, and behavioral health personnel reported difficulties getting to Soldiers.

d. Role of Leadership. Soldiers who report high combat experiences and poor leadership report very high levels of mental health problems. Findings replicate using OIF data.

e. Suicide. Suicide rates were elevated relative to historic Army rates.

1.2.4 Key Recommendations (non-theater specific)

Increase in-theater behavioral health assets

- Develop a mechanism to allow GS or contracted psychiatrists, psychologists, and social workers to fill select behavioral health positions in theater to augment military personnel.
- Create and fill Behavioral Health Officer and NCO positions in Aviation Brigades.
- Mandate all combat medics receive Battlemind Warrior Resiliency (formerly Battlemind First Aid) Training before deploying OEF or OIF to augment behavioral health personnel.

Change the mTOE to maximize the impact of organic behavioral health assets.

- Move Division Psychiatrist position from Sustainment Brigade to Division Surgeon cell.
- Move Brigade Behavioral Health Officer and NCO positions from Brigade Support Battalions (BSB) to the Brigade Surgeon cell.

Mitigate multiple deployment effects

- Provide Soldiers who have deployed multiple times priority for TDA assignments.
- Ensure adequate dwell-time between deployments.

Strategies to reduce suicide risk

- Amend TRICARE rules to cover marital and family counseling as a medical benefit.
- Tailor suicide prevention training packages to focus on phase of deployment and aimed at building psychological resiliency.

Training

- Continue emphasis on Battlemind Training for Soldiers and Families.
- Enhance training for NCOs at Warrior Leader Course, BNCOC and ANCOC on their role in maintaining Soldier resiliency through counseling & mentorship training.
- Develop and implement senior leader Battlemind training.
- Continued emphasis on ethics training.

Concussion

- Develop consistent policies for evaluating Soldiers after a concussive event.

Mental Health Advisory Team (MHAT) V
Operation Iraqi Freedom 06-08

14 February 2008

Office of the Surgeon
Multi-National Force-Iraq

and

Office of The Surgeon General
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2. EXECUTIVE SUMMARY

2.1 Introduction

The Mental Health Advisory Team (MHAT) V was established by the Office of the U.S. Army Surgeon General at the request of the Commanding General, Multi-National Force-Iraq (MNF-I). The mission of MHAT V was to:

1. Assess Soldier mental health and well-being
2. Examine the delivery of behavioral health care in Operation Iraqi Freedom (OIF)
3. Provide recommendations for sustainment and improvement to command.

In the period of 2 SEP to 23 OCT, 2,279 OIF Soldiers completed an anonymous survey. In addition, 350 anonymous surveys were completed by behavioral health, primary care and unit ministry team members.

During the period of 15 OCT to 15 NOV the MHAT V team (a) processed and analyzed survey data, (b) examined secondary data sources, and (c) conducted focus group interviews with Soldiers, behavioral health personnel, and medical personnel. The MHAT V team report and recommendations are based on these data sources.

2.2 Central Findings: Soldiers

Findings are listed in terms of outcomes, risk factors, and protective factors.

2.2.1 Morale, Mental Health, Performance and Ethical Behavior Outcomes

1. The percent of Soldiers who reported high or very high unit morale was significantly higher in 2007 than 2006.

2. The percentage of Soldiers screening positive for mental health problems was similar to 2006 and other years.

3. Soldiers' reports of the degree to which their work performance was impaired by stress or emotional problems were significantly lower in 2007 than in 2006.

4. 11.2% of Soldiers met the screening criteria for concussion (also called mild Traumatic Brain Injury – mTBI). Less than half of these were evaluated by a medical professional.

5. Soldiers' reports of engaging in unethical behaviors were largely unchanged relative to 2006; however, they did report a significant decline in "modifying" the rules of engagement.

6. Soldiers who screened positive for mental health problems were significantly more likely to report engaging in unethical behaviors.

2.2.2 *Risk Factors: Soldiers*

1. Normalizing data for months deployed, Soldiers reported a significant decline in exposure to a wide range of combat experiences relative to 2006. The decline was particularly pronounced for Soldiers in theater for six months or less.

2. On an unadjusted basis, Soldiers reported high exposure to a variety of intense combat events. In particular, 72.1% of Soldiers reporting knowing someone seriously injured or killed.

3. There was considerable variability across units in terms of combat exposure.

4. On a normalized basis, relative to 2006 Soldiers reported a significant decline in deployment concerns such as being separated from family. On an unadjusted basis, Soldiers' top concerns were deployment length and being separated from family.

5. Deployment length was a risk factor for most outcomes. A number of outcomes (morale, mental health, alcohol use, and unethical behaviors) show improvements in the last 4 months of the deployment.

6. Even with an improvement in reports of mental health in the last months of the deployment, nearly three times as many Soldiers would be expected to report mental health problems at month 15 than would be expected to report problems at month one.

7. Soldiers on multiple deployments report low morale, more mental health problems, and more stress-related work problems. Soldiers on their third/fourth deployment are at particular risk of reporting mental health problems.

8. Soldiers reported an average of 5.6 hours of sleep per day which is significantly less than what is needed to maintain optimal performance. Reports of sleep deprivation are a significant risk factor for reporting mental health problem and work-related problems.

9. Officers appeared to underestimate the degree to which sleep deprivation negatively impacts performance.

2.2.3 *Protective Factors: Soldiers*

1. Soldiers' ratings of their social climate (leadership, cohesion and readiness) were significantly higher in 2007 than 2006.

2. Soldiers perceptions of the stigma associated with mental health care were significantly lower in 2007 than 2006.

3. In contrast to stigma, Soldiers' perceptions of several barriers to care increased. Increases were likely driven by Soldiers at command outposts who had trouble accessing mental health.

4. Soldiers' perceptions of their marital quality did not change from 2006.

5. Soldiers reported either no change or a decrease in their willingness to report a unit member for engaging in unethical behaviors relative to 2006.

6. Soldiers reported significant increases in training adequacy for managing the stress of deployments and for identifying Soldiers at risk for suicide.

7. Soldiers who received pre-deployment Battlemind training reported lower mental health problems.

8. Soldiers reported a significant increase in the adequacy of ethics training.

2.3 Summary of Behavioral Health Personnel Findings

1. Behavioral Health personnel in 2007 are conducting significantly more command consultations than personnel in 2006.

2. Behavioral Health personnel report significantly more shortages in personnel than did Behavioral Health personnel in 2006.

3. Behavioral Health personnel in 2007 report significantly more burnout than personnel in 2006.

4. The ratio of Behavioral Health personnel to total Army strength is 1:734. This ratio is the highest since OIF 1 where it was 1:836.

2.4 Summary of Primary Care Personnel Findings

1. Primary Care personnel in 2007 report significant increases in helping Service Members with mental health problems and referring Service Members to mental health services relative to 2006.

2. Primary Care personnel report significant increases in the number of medications prescribed for sleep, depression, and anxiety relative to 2006.

2.5 Summary of Unit Ministry Team Personnel Findings

1. Unit Ministry Team members in 2007 report talking more to commanders and with unit medical personnel than members in 2006.

2.6 Summary of Suicide Assessment

Since the beginning of OIF (March 2003), there have been 113 confirmed Army suicides in Iraq. The MNF-I has an active Suicide Prevention Committee, chaired by the Chief of Clinical Operations for the Command Surgeon. This has recently been augmented by an MNCI-I Suicide Prevention Board Chaired by the Corps Chief of Staff. The current suicide training program is being revamped into a more robust program, which will require further review once established to gauge effectiveness. The Automated Suicide Event Report (ASER) is being widely used in the theater by behavioral health care providers, but only for suicides/suicidal gestures by Army personnel. Although there are numerous service-specific mental health tracking systems, there is no single, joint tracking system capable of monitoring suicides, mental

health evacuations, and use of mental health/combat stress control services in a combat environment.

2.7 Key Recommendations

2.7.1 Sustainment of Soldier Resilience

1. Continue emphasis on Battlemind training across the deployment cycle.

2. Continue targeting behavioral health based on time in theater

    a. Time-driven Battlemind debriefing after 6 months in theater for high combat exposure units.
    b. Unit Behavioral Health Needs Assessments after 6 months in theater.

3. Provide NCOs who have deployed multiple times priority for TDA assignments.

4. Provide adequate dwell-time for Soldiers. Research indicates that one-year may not be sufficient time to reset mental health.

2.7.2 Leaders

1. Develop and monitor work cycle programs that provide adequate sleep time using the Combined Arms Doctrine Directorate (CADD) on Sleep Management and encourage Soldiers to seek treatment for sleep problems.

2. Encourage BN and CO leaders to read material such as the NATO leader's guide to "A Leader's Guide to Psychological Support Across the Deployment Cycle."

2.7.3 Training

1. Enhance training for NCOs at Warrior Leader Course, BNCOC and ANCOC on their role in reducing Soldier Stigma through counseling & mentorship training.

2. Enhance and validate ethics training.

2.7.4 Suicide Prevention

1. Synchronize Behavioral Health with Deployment Cycle Support System

2. Tailor suicide prevention training packages focused on phase of deployment and aimed at building psychological resiliency.

2.7.5 Strengthen Families

1. Amend TRICARE rules to cover Marital and Family Counseling as a medical benefit under TRICARE Prime.

2. Increase the number of Family Life providers in CONUS to work with Spouses and Families.

2.7.6 Delivery of Behavioral Health Care in Theater

1. Ensure the Theater Behavioral Health Consultant and senior Mental Health NCOIC are assigned to the MNC/F -I Surgeon's office to have theater oversight.

2. Appoint a Behavioral Health Consultant within each MND to work with the theater Behavioral Health consultant.

2.7.7 Increase the Number of Behavioral Health Personnel

1. Place Behavioral Health Officer and Behavioral Health NCO in Aviation Brigades.

2. Develop mechanism to fill CSC teams with GS or contracted psychologists or social workers.

3. Cross-train select 68W to allow them to augment 68X using training such as Battlemind First-Aid.

3. BACKGROUND AND LIMITATIONS

3.1 Background

This report presents findings from the fifth annual Mental Health Advisory Team (MHAT V). The MHAT deployed to Iraq in support of Operation Iraqi Freedom (OIF) in October and November of 2007. The mission and scope of activities of the MHAT V were approved by the Commanding General (CG), Multi-National Forces – Iraq (MNF-I) (see Appendix A for an unclassified version of the MHAT V Fragmentary Order – FRAGO). The MHAT V members were assigned to the MNF-I and worked directly under the supervision and control of the Command Surgeon, MNF-I who also serviced as the Command Surgeon, MNC-I.

3.1.1 MHAT Mission

The MHAT mission is to assess Soldier mental health and well-being; examine the delivery of behavioral health care in OIF, and provide recommendations for sustainment and improvement to command.

3.1.2 MHAT Scope of Activities

The MHAT is designed to:

1. Assess the mental health and well-being of the deployed force, and identify trends by comparing findings to previous MHAT data.

2. Reassess ethical issues faced by Soldiers to enhance future battlefield ethics training. This activity was included in the previous MHAT (MHAT IV) at the specific request of the CG, MNF-I.

3. Review behavioral health policies, programs, and structure to ensure optimal integration/utilization.

4. Review suicide prevention efforts.

5. Review the status of the implementation of recommendations of previous MHATs.

3.2 Limitations

MHAT recommendations are based upon many sources of information to include survey data from Soldiers and providers, records review and focus groups. One of the primary sources of data, however, comes from the anonymous Soldier Well-Being surveys collected as part of the effort. Soldier survey data are valuable because they provide a way to summarize responses from a large number of Soldiers and examine trends and patterns that would otherwise be impossible to detect. Despite these strengths, there are two limitations associated with the Soldier survey data that need to be highlighted – issues related to the validity of certain scales and the sampling scheme used to collect the data.

3.2.1 Scale Validity

Many of the constructs assessed in the survey are measured using validated scales. For instance, the items used to assess Post-Traumatic Stress Disorder (PTSD) are widely used in civilian and veteran settings and have been subsequently validated in active-duty Army

populations (Bliese, Wright, Adler, Cabrera, Hoge & Castro, in press). Validated scales have established norms that make it possible to state with some degree of certainty that a specific score (e.g., a score of 50 on the Post-Traumatic Stress Disorder Check List -- PCL) is an indicator of the clinical condition being measured (e.g., PTSD). In the current survey, however, validated measures were not available for all constructs. For instance, the measures of ethical issues developed for the previous MHAT have not been validated. The use of un-validated scales provides flexibility in assessing battlefield conditions; nonetheless, in cases where un-validated scales without established norms are used, the interpretation of the data is more subjective than in cases where validated norms exist.

3.2.2 Sampling Scheme

A second limitation with the survey data is that respondents were not sampled using a random sampling design. A commonly used sampling design is a stratified random sample where relevant sub-populations are identified (e.g., type of unit, gender or rank), and individuals are randomly selected from these sub-populations. While this design has many statistical advantages, it was considered logistically unfeasible to implement in a combat environment. In addition, this sampling design which would require access to personally identifying information among deployed Soldiers was not permitted under the current MHAT human use protocol because it would raise concerns about confidentiality.

Cluster sampling is an alternative random sampling design that is less precise but potentially feasible in a deployed setting. In this sampling strategy, all members of randomly selected groups provide data. The sampling scheme used in MHAT IV and MHAT V had elements of a cluster sample because it primarily targeted line companies within Brigade Combat Teams (BCTs). Specifically in MHAT V, eight BCTs were tasked to select eight line companies and two support companies (10 companies total per BCT) and survey 25 Soldiers from each of these companies. The specific companies and individuals within the companies, however, were selected by the local medical representatives and operational leaders based on mission considerations rather than by a predetermined random process; consequently, the sampling scheme cannot be considered random.

There are two implications associated with not having a random sampling scheme. First, there is a possibility that the individuals who selected the specific Soldiers to complete surveys introduced bias by selecting either highly symptomatic or highly non-symptomatic Soldiers. While possible, the MHAT team has no reason to believe that Soldiers were systematically picked in any way that would bias the results. It is common, for instance, to select individuals to complete surveys based on which specific platoon or platoons have down-time the day the survey administration is scheduled. The second implication is that because the sampling plan was based on Soldiers in line units (BCTs) the results from this MHAT report are not representative of the approximately 138,000 Army Soldiers in Iraq at the time of the MHAT V data collection. This decision to focus on line Soldiers is based on the recognition that line Soldiers are at high risk of experiencing potentially traumatic events, and that exposure to these types of events is a key predictor of many behavioral health problems.

3.3 Mitigating the Limitations

3.3.1 Current Report

To mitigate the limitations associated with both un-validated scales and non-random sampling, the MHAT V report relies heavily on statistical modeling to draw inferences. That is, rather than estimate absolute prevalence rates of variables such as mental health problems or ethical

issues in the population (since prevalence can only be answered with a random sampling design), the analyses focus on whether responses to variables of interest are related to factors such as time in theater, the number of previous deployments, or combat frequency and intensity.

The use of statistical modeling has two additional advantages. First, it provides a way to compare responses over time while adjusting for sample differences. Specifically, the current report compares responses on MHAT V with those from MHAT IV. Both MHAT V and MHAT IV used virtually identical sampling designs, so it is reasonable to conclude that sampling bias (if it exists) would be comparable across years. In making comparisons across years, the analyses adjust for demographic sample differences in (1) gender, (2) rank, and (3) months deployed. This helps ensure that observed differences are not merely due to demographic differences in the two samples.

Second, by using statistical modeling, adjusted mean values can be used in figures to illustrate differences or similarities across years. The use of adjusted means effectively equalizes the MHAT IV and MHAT V samples on key demographic variables. In reporting adjusted means, we provide estimated values for a standardized group with high representation in the population which is generally the group of (1) male, (2) junior enlisted Soldier deployed for (3) nine months. Because of this strategy, the adjusted MHAT IV values reported in the current report will not necessarily coincide with the values provided in previous MHAT IV reports.

Adjusted means were estimated from either a logistic regression model or a linear regression model depending upon nature of the dependent variable. Key results were also confirmed using generalized linear mixed effects models (GLMMs) to control for hierarchical nesting of the data. These additional analyses were conducted to ensure that parameter estimates and standard error values were not biased by the nested nature of the data (Bliese & Hanges, 2004; Pinheiro & Bates, 2000). GLMMs were not used throughout because a fairly large percentage of Soldiers failed to provide their complete unit information and thus GLMM models had to be run on a sub-sample of those who provided complete unit information.

In the MHAT V report, all analyses were run in the statistical language R (R Core Development Team, 2007), and replicated by a second member of the research team using the Statistical Package for the Social Sciences program (SPSS).

3.3.2 Future MHAT Missions

Future MHAT missions should consider implementing a cluster sampling design. One way to do this would be to require all platoon members from 2 randomly selected platoons within each selected company to complete the survey (a census sample of randomly selected platoons). Using this alternative will eliminate the possibility of bias.

3.4 Data Handling Procedures

All surveys were distributed and collected through the medical chain of custody. Respondents returned surveys in sealed envelopes. Procedures were put into place to ensure that datasets were adequately de-identified and that surveys were properly destroyed. A neutral third-party observed the survey handling and database creation process (Appendix B). All Soldier well-being data was handled according to an Institutional Review Board (IRB) approved WRAIR research protocol.

4. OVERVIEW OF SOLDIER WELL-BEING

The MHAT V Soldier Well-Being survey contains the same core survey measures used in all previous MHATs. MHAT surveys are adapted from the Land Combat Study conducted at the Walter Reed Army Institute of Research (Hoge, Castro, Messer et al., 2004; Hoge, Terhakopoian, Castro et al., 2007).

4.1 Soldier Combat & Well-Being Model

The MHAT V survey covers: (1) Risk Factors, such as combat and deployment experiences; (2) Protective Factors, such as training and willingness to seek care; and (3) Behavioral Health Status and Performance Indices (see Figure 1).

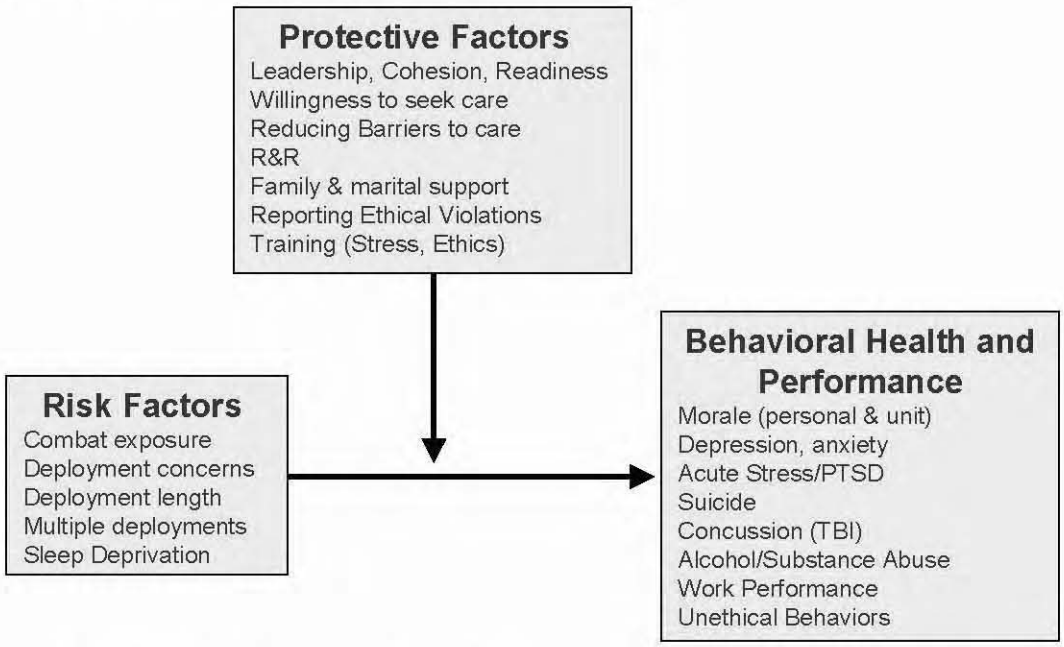

Figure 1. Soldier Combat & Well-Being Model (Adapted from Bliese & Castro, 2003).

4.1.1 Risk Factors

The model assumes that the behavioral health and performance of Soldiers is influenced by both environmental (e.g., exposure) and individual-level risk factors (e.g., sleep quality). One goal of the annual MHAT reports is to systematically evaluate changes in risk factors. A second goal is to determine whether new risk factors have emerged. In this regard, the current MHAT report will specifically examine:

1. Whether exposure to combat-related risk factors have significantly increased or decreased in comparison to 2006.

2. Whether deployment concerns have changed significantly in comparison to 2006.

3. Whether the length of deployment (in particular the period beyond 12 months) represents a new risk factor.

4. Whether being deployed three or four times to Iraq represents a new risk factor over being on the first deployment or being deployed twice.

5. The degree to which reports of sleep deprivation are related to behavioral health and reports of sleep-related accidents and mistakes.

4.1.2 Protective Factors

Based on the framework of the conceptual model in Figure 1, behavioral health and performance can be improved either by (a) reducing or eliminating factors that put Soldiers at risk or (b) by strengthening protective factors so Soldiers are better able to cope when exposed to factors that put them at risk.

In combat environments, many risk factors are either unavoidable (e.g., exposure to potentially traumatic combat events) or they are the direct product of National policy decisions (e.g., the size of the military requires deploying Soldiers multiple times). For these reasons, many behavioral health interventions focus on developing and enhancing programs designed to help Soldiers cope with known risk factors (protective factors). The current MHAT report examines:

1. Whether there are systematic changes in protective unit variables such as perceptions of positive leadership, readiness and cohesion.

2. Whether willingness to seek care and access to care has changed, and how Soldiers might be encouraged to seek care.

3. Whether systematic changes in family support are evident across years or as a function of deployment length.

4. Whether training (pre-deployment Battlemind, suicide prevention, and ethics) can be shown to have beneficial effect.

4.1.3 Behavioral Health and Performance

Across the five years of the MHAT, a consistent set of behavioral health status variables have been assessed. These include:

1. Individual and Unit Morale

2. Acute Stress (PTSD), Depression and Anxiety

3. Suicides and Suicidal Ideation

In addition to evaluating the indicators listed above, the current MHAT report also evaluates a series of variables related to either various aspects of well-being or performance to include:

1. Self ratings of the degree to which stress and emotional problems have impacted performance.

2. Rates of reported concussions (also referred to as mild Traumatic Brain Injuries or mTBIs).

3. Use of alcohol and substance abuse to include inhalants in theater.

4. Soldiers reports of unethical behaviors towards non-combatants

Overall, these indicators provide a comprehensive assessment of the behavioral health status and performance of Soldiers deployed to Iraq.

4.2 MHAT V Soldier Sample and Methods

Units represented in the MHAT V assessment are listed in Table 1. These units had Soldiers complete the Soldier Well-Being survey or the units provided individuals to complete the behavior health (BH), primary care (PC) or unit ministry team (UMT) surveys. In addition, selected units also provided Soldiers for focus group interviews.

The MHAT V assessment of Soldiers focused primarily on Soldiers from brigade combat teams (BCTs) although a small sample of Soldiers in units at the corps level were also assessed along with Transition Team members. All regions within the Iraqi Theater of Operations (ITO) with significant numbers of U.S. Army Soldiers were surveyed.

Table 1. Brigades surveyed in MND region.

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4.3 Demographics and Comparison with MHAT IV

In the analyses detailed in the report, Soldier responses to the 2007 MHAT V survey are compared to responses to the 2006 MHAT IV survey. In both years, the sampling strategy was virtually identical; nonetheless, there were a number of demographic differences in the samples across the years. Many of these differences likely reflect changes in the proportion of the population from reserve component units. Table 2 provides details on selected demographic variables. In both samples data from Transition Teams are excluded (resulting in a final sample size of 1,368 for MHAT IV and 2,195 for MHAT V). Key differences between years include:

1. A significantly larger percentage of females in 2006 than 2007.

2. Significant rank differences. In 2007 a higher percentage of E1-E4 Soldiers and officers were surveyed. In addition, changes to the survey resulted in fewer unknown rank responses.

3. Significantly longer deployment lengths at the time of survey administration for Soldiers in 2007. In terms of means, Soldiers in 2006 had deployed an average of 8 months, while those in the 2007 sample had deployed an average of 9.5 months.

This is a direct result of the surge in which a number of units were extended beyond 12 months.

The 2007 sample also contains significantly more active component Soldiers; however, analyses across all five years of MHAT data finds no evidence of systematic differences in outcomes such as morale or mental health as a function of active versus reserve component, so this variable is not included as a control.

As previously discussed in Section 3.3.1, when drawing comparisons across the 2006 and 2007 samples, the demographic variables of gender, rank, and months in theater are statistically controlled to ensure that observed differences are not merely caused by demographic differences in the samples. For instance, when comparing combat experiences across samples, it is important to normalize the length of time Soldiers have deployed to determine whether there has been either a decline or escalation in combat intensity. Also as previously noted, adjusted values are typically provided for male, E1-E4, Soldiers in theater for nine months.

Table 2: Demographic Comparison MHAT IV (2006) and MHAT V (2007).

	MHAT IV		MHAT V	
Demographic Variable	n	Percent	n	Percent
Gender				
Male	1165	85.2%	1983	90.3%
Female	189	13.8%	206	9.4%
Unknown	14	1.0%	6	0.3%
Age				
18-19	43	3.1%	87	4.0%
20-24	662	48.4%	1102	50.2%
25-29	332	24.3%	539	24.6%
30-39	261	19.1%	378	17.2%
40+	68	5.0%	86	3.9%
Unknown	2	0.1%	3	0.1%
Rank				
E1-E4	741	54.2%	1315	59.9%
NCO	485	35.5%	720	32.8%
Officer / WO	61	4.5%	150	6.8%
Unknown	81	5.9%	10	0.5%
Component				
Active	1041	76.1%	2091	95.3%
Reserve	91	6.7%	49	2.2%
National Guard	205	15.0%	44	2.0%
Unknown/Other	31	2.3%	11	0.5%
Marital Status				
Single	578	42.3%	924	42.1%
Married	688	50.3%	1076	49.0%
Divorced	80	5.8%	132	6.0%
Unknown/Widowed	22	1.6%	63	2.9%
Time in Theater				
6 Months or Less	501	36.6%	456	20.8%
6 to 12 Months	643	47.0%	1318	60.0%
Over 12 Months	NA	NA	255	11.6%
Unknown	171	12.5%	166	7.6%

5. SOLDIER BEHAVIORAL HEALTH AND PERFORMANCE INDICES

In the conceptual model in Figure 1, Soldier behavioral health and performance are viewed as outcomes determined by risk factors and protective factors. This report begins by examining these outcomes, and uses subsequent chapters on risk factors and protective factors to interpret behavioral health and performance results. In most cases, health and performance indices are examined relative to MHAT IV data from 2006. In some cases, though, MHAT V indices are interpreted within the context of data from all previous MHAT missions. Finally, this section of the report examines several factors unique to MHAT V to include rates at which Soldiers report being evaluated for concussions, and the use of inhalants as a form of substance abuse.

5.1 Individual and Unit Morale

5.1.1 Morale: MHAT IV and MHAT V

Soldiers ratings of unit morale were significantly higher in 2007 than in 2006 after controlling for sample differences of (1) gender, (2) rank, and (3) months in theater. Figure 2 shows the raw percentages (top graph) and adjusted percents (bottom graph). Notice in the bottom graph that the adjusted percent of Soldiers who rate unit morale high or very high in 2007 is close to double the estimate from 2006.

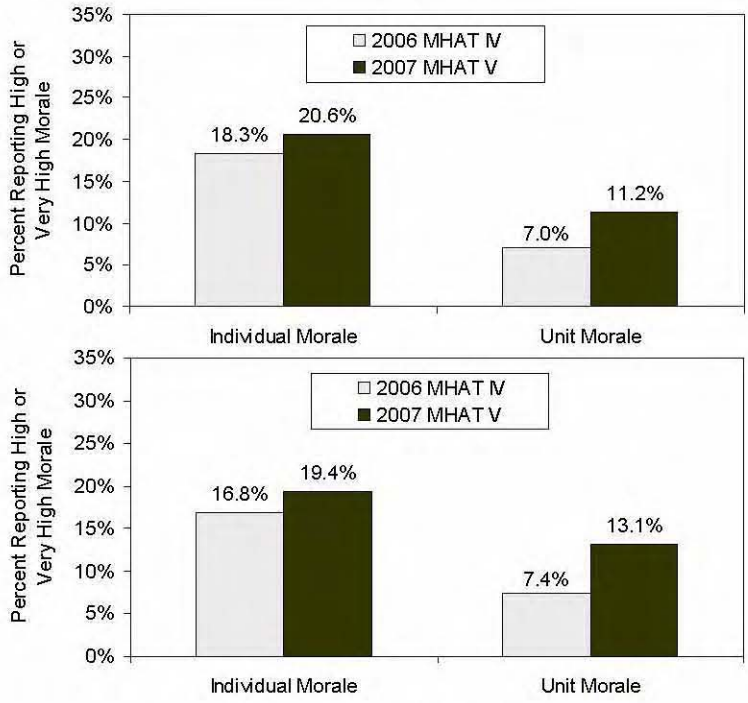

Figure 2: Unadjusted Percents (Top) and Adjusted Percents for Male, E1-E4 BCT Soldiers in Theater 9 Months (Bottom)

Figure 2 illustrates that adjusted rates are similar to raw rates; nonetheless there are clear advantages to interpreting adjusted percents when drawing comparisons across years. Specifically, ratings of unit morale are influenced by gender (males report higher unit morale than females); rank (NCOs rate unit morale lower than the E1-E4 group, and Officers rate unit morale higher than the E1-E4 group) and months in theater (a detailed analysis is provided in section 6.3.1). Each of these variables, however, differs from 2006 to 2007 (see Table 2). Therefore, to determine whether BCT Soldiers report changes in unit morale it is necessary to normalize the data on these key variables.

5.1.2 Morale Compared to Other MHAT Data

Given the large increase in unit morale, it is useful to interpret data from 2007 in the context of data from other years. Figure 3 provides both raw and adjusted percents across each year of OIF for unit morale. The adjusted values for years 2006 and 2007 in Figure 3 are not identical to the values in Figure 2 because the combined sample of (6,859) contains more information about the effects of rank and gender and uses this information to refine the adjusted means. Furthermore, the comparisons across years do not normalize percents for the number of months in theater in part because in early OIF samples there was little variability in months deployed. Despite these caveats, the results indicate that levels of unit morale in 2007 are significantly higher than 2006 ($p<.001$) and 2003 ($p<.001$).

In Figure 3, the adjusted values based on the E1-E4 population are higher than the unadjusted numbers. This occurs because E1-E4 Soldiers tend to rate unit morale higher than the NCOs – a relationship that is particularly evident in latter years of MHAT potentially due in part to the effects of multiple deployments on NCOs (see section 6.4.1).

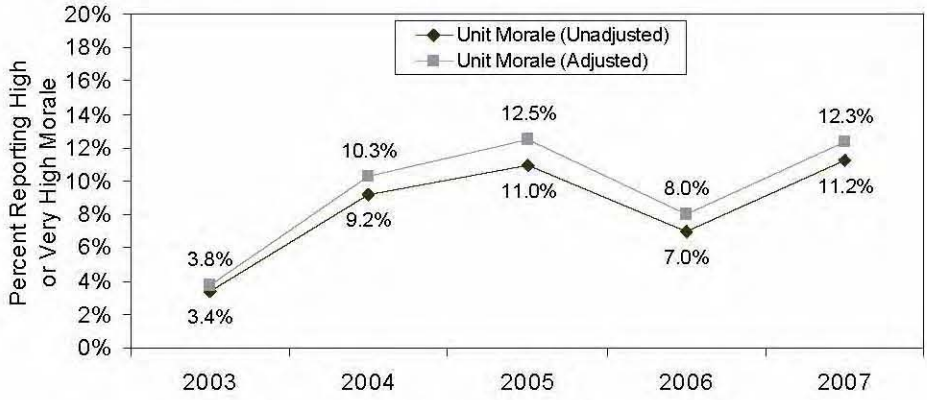

Figure 3: Unit Morale Over Time
Adjusted Percents are for Male, E1-E4 BCT Soldiers

5.1.3 Morale: Medium, High or Very High

An alternative way to look at morale is to examine the percent of Soldiers who rate morale as being medium, high or very high. Using this breakdown, both individual and unit morale significantly increase from 2006. Specifically, the adjusted percents show that 51.2% of male, E1-E4 Soldiers in theater 9 months had medium, high or very high morale in 2006 compared to 55.4% in 2007. Similarly, 44.3% of male, E1-E4 Soldiers in theater nine months reported medium, high or very high morale in 2006 compared to 52.6% in 2007.

5.2 Behavioral Health: Acute Stress (PTSD), Depression and Anxiety

Soldiers' ratings of depression, generalized anxiety and acute stress (i.e., PTSD) were assessed using standardized, validated scales (Spitzer, Kroenke, & Williams, 1999; Weathers, Litz, Herman, Huska, & Keane, 1993). The scales were identical to the measures used in previous MHAT surveys, and have formed the basis of peer-reviewed publications from WRAIR (e.g., Bliese, et al., 2007; Hoge et. al., 2004; Hoge, et al., 2007). Details on scoring specific scales are available in previous MHAT reports.

5.2.1 Behavioral Health: MHAT IV and MHAT V

Figure 4 shows both the overall unadjusted percents (top) and the percents adjusted for sample differences (bottom). There was a tendency for Soldiers in 2007 to report lower values; however, using a conventional criterion of $p<.05$, none of the differences were statistically significant.

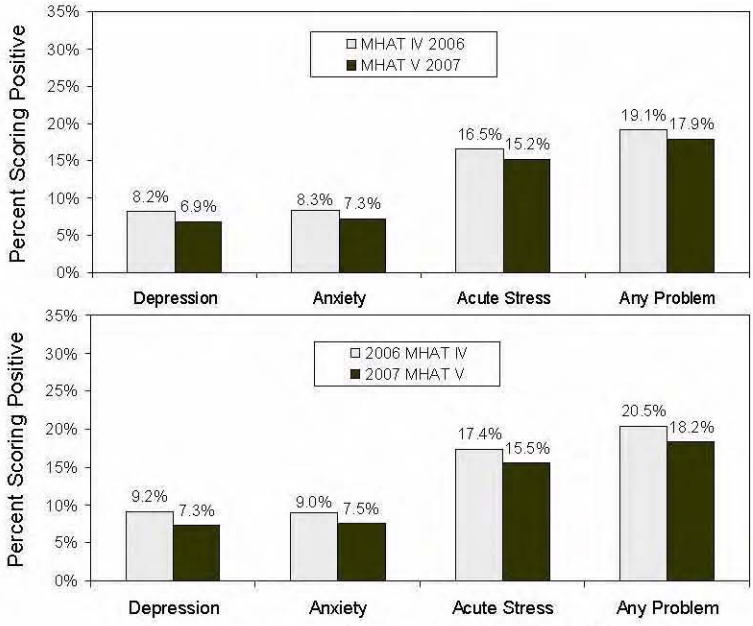

Figure 4: Unadjusted Percents (Top) and Adjusted Percents for Male, E1-E4 BCT Soldiers in Theater 9 Months (Bottom)

5.2.2 Behavioral Health Compared to Other MHAT Data

Reported values for 2007 are within expected ranges from other MHAT data and from other studies (e.g., Hoge et al., 2004). Figure 5 presents both adjusted and unadjusted values across all previous MHAT missions. In the comparison, 2007 significantly differs only from 2004. The adjusted percents for E1-E4 Soldiers are consistently higher than values for the entire sample because junior enlisted are more likely to score positive on measures of mental health problems.

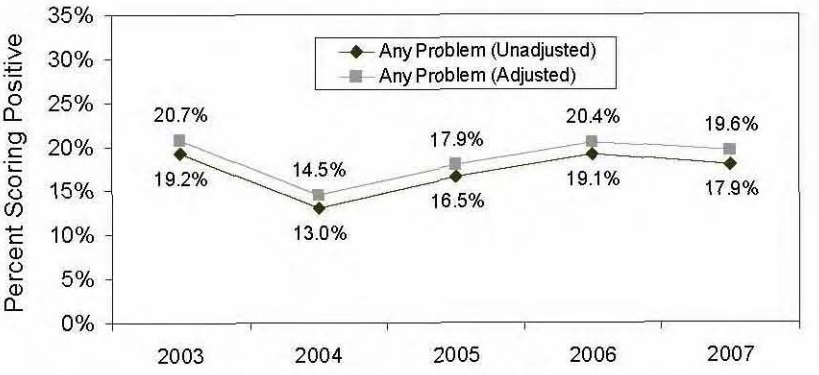

Figure 5: Any Mental Health Problem Over Time
Adjusted Percents are for Male, E1-E4 BCT Soldiers

5.3 Stress and Work Performance

There are a number of reasons to track mental health rates across deployments including the need to optimize the allocation of mental health care delivery. From an organizational perspective, however, mental health problems are also important to track because psychological well-being has been shown to be a direct pre-cursor of performance (Lang, Thomas, Bliese & Adler, 2007). In the Soldier well-being survey, work performance is assessed with three items where Soldiers indicate whether stress or emotional problems in the last four weeks have:

1. Limited your ability to do your job
2. Caused you to do work less carefully than usual
3. Caused your supervisor to be concerned about your performance

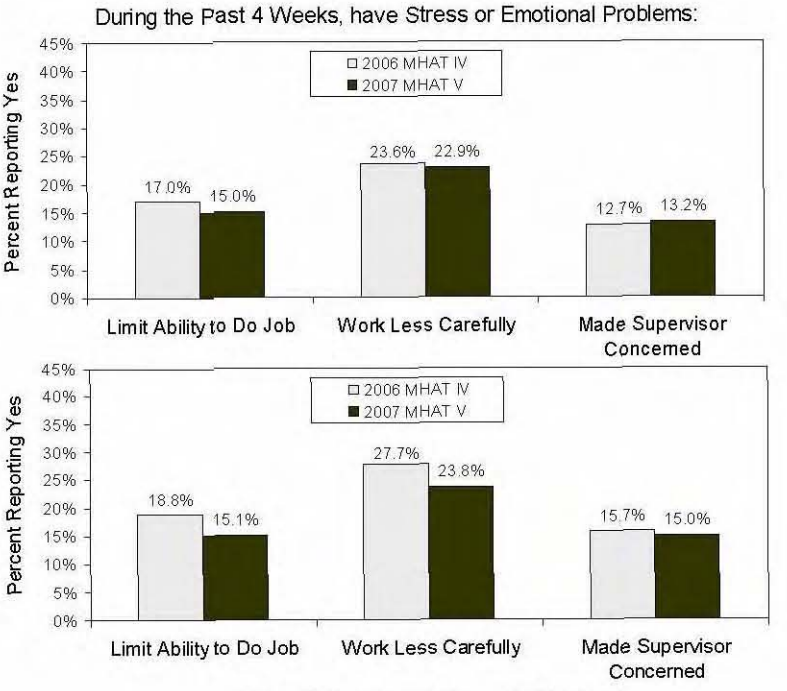

Figure 6: Unadjusted Percents (Top) and
Adjusted Percents for Male, E1-E4 BCT Soldiers
in Theater 9 Months (Bottom)

Figure 6 contrasts responses from 2006 and 2007. After adjusting for sample differences, Soldiers in 2007 were significantly less likely to report that stress or emotional problems had (a) limited their ability to do their job, and (b) caused them to do their work less carefully than usual. The difference for the item about supervisor concern was not significant.

5.4 Suicide Ideation

Suicide rates in OIF have historically been above the Army average; consequently, the current report contains a detailed section on suicide (see section 14). Suicide ideation, however, can also be examined using a single depression item on the Soldier well-being survey. This item is the last item (item 9) of the PHQ-D (Spitzer, Kroenke, & Williams, 1999). This item asks Soldiers if they have been bothered by thoughts that they would be better off dead or of hurting themselves in some way over the last four weeks. Any response other than "Not at all" is considered a positive response. Responses to this item did not significantly differ between 2006 and 2007. In 2006, the adjusted positive response rate for active duty, E1-E4 males was 17.7%. In contrast, in 2007 the adjusted rate is 15.2%. Raw rates are 14.5% and 13.1% for 2006 and 2007, respectively.

5.5 Social Relationships: Divorce

Another possible indication of behavioral health problems is the percentage of Soldiers who report they are considering divorce. In 2007, the adjusted percent for married male, E1-E4 Soldiers 9 months in theater was 17.0%; the adjusted percent for NCOs was 12.3% and the adjusted percent for Officers was 3.5%. Raw rates were 20.8%, 15.1% and 4.3% for E1-E4, NCOs and Officers, respectively. Values significantly differed across ranks, but did not differ from 2006 to 2007. As will be detailed in section 6.3.5, months in theater is a significant predictor of whether Soldiers report considering a divorce or separation.

5.6 Concussion (mTBI)

A series of questions evaluated whether Soldier had experienced one of four possible head injuries, and whether they had been evaluated for a concussion by a medical professional. These questions and response formats are unique to MHAT V in 2007 so they cannot be compared to 2006. The specific questions were:

10. How many times during this deployment did you have an injury that involved the following:

	Never	One Time	Two Times	Three or Four Times	Five or More Times
Injury to your head	①	②	③	④	⑤
Being dazed, confused, or "seeing stars"	①	②	③	④	⑤
Not remembering the injury	①	②	③	④	⑤
Losing consciousness (knocked out)	①	②	③	④	⑤

11. During this deployment, were you evaluated by a medical professional for a concussion?

① Yes
② No

Responses to the head injury questions were scored as "never" versus "one or more times". Figure 7 shows the percent of Soldiers who reported receiving the specific injury at least once and the percent that were evaluated by a medical professional for a concussion. Figure 7 also

shows the percent of Soldiers who met the criteria for screening positive for a mild Traumatic Brain Injury (mTBI). To screen positive for mTBI, Soldiers had to report having been injured and also report (a) being dazed and confused, (b) not remembering the injury or (c) losing consciousness. Note that the estimates in Figure 7 may be biased downward because a number of Soldiers have been evacuated from theater because of IED explosions.

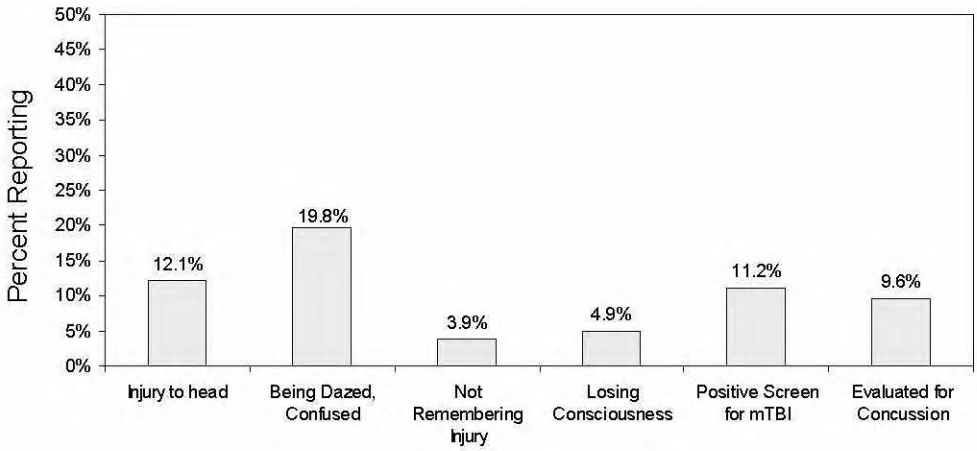

Figure 7: Head Injuries and Concussion

Figure 8 breaks down the percents in Figure 7 and shows the percent of Soldiers who reported head injuries who also reported being evaluated by a medical professional for a concussion. For instance, 19.7% of the Soldiers reported having an injury that involved "Being dazed, confused or "seeing stars" (Figure 7). Figure 8 shows that 6.6% of the 19.7% were evaluated for a concussion while 13.1% of the 19.7% were not evaluated. Overall, Figure 8 shows that less than half of the Soldiers who report mTBI also report being evaluated for a concussion; however, in the case of losing consciousness, more than 50% reported being evaluated.

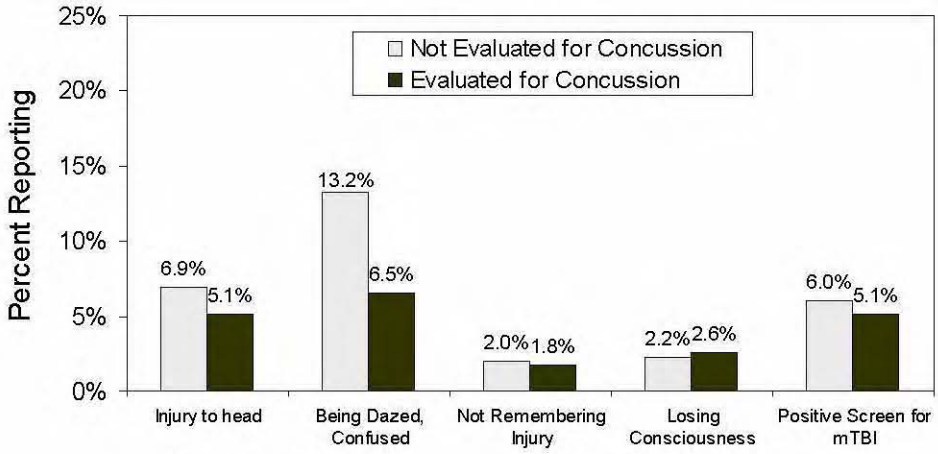

Figure 8: Head Injuries and Evaluations for Concussions

5.7 Alcohol and Substance Abuse

5.7.1 Alcohol and Illegal Drugs

The reported use of either alcohol or illegal drugs/substances in theater did not significantly change from 2006 to 2007. In the 2007 data, 8% of Soldiers reported using alcohol in theater, and 1.4% reported using illegal drugs/substances. In 2006, the values were 6.8% and 1.6%, respectively.

5.7.2 Inhalants

In 2007, the use of inhalants was also assessed. Use of inhalants for "huffing" were assessed using the following scale.

19. During this deployment , have you "huffed" (i.e. used any of the following inhalants to get high)? **Mark all that you have used.**

Compressed air for dusting electronics	1 Yes	2 No
Aerosols or sprays	1 Yes	2 No
Paint or paint thinners	1 Yes	2 No
Fuels	1 Yes	2 No
Nitrous oxide	1 Yes	2 No

These items were unique to the MHAT V survey and cannot be compared to data from 2006 or other years. Overall, 3.8% of Soldiers reported that they "huffed" any substance. The breakdown by item was Compressed Air (3.1%), Fuels (0.10%), Aerosols (0.07%), Paint (1.1%) and Nitrous Oxide (.04%). It is difficult to compare the percent to other populations because the items used above have not been routinely asked in deployment settings; nonetheless, as a reference point Lacy and Ditzler (2007) report that 0.8% of military service members report having used inhalants in the past 30 days. In this context, the overall rate of 3.8% during the deployment may represent an elevated rate.

5.8 Unethical Behaviors

In 2006, ethical issues were included in the MHAT IV Soldier Well-Being survey at the request of the MNF-I Commander. The questions specifically addressed the issue of battlefield ethics and the adequacy of battlefield ethical training for preparing Soldiers to conduct combat operations in Iraq. As noted in the MHAT IV report, MHAT IV members and other military subject matter experts (SMEs) developed a set of unique survey questions. These questions assessed four dimensions:

1. Dimension 1: Attitudes Regarding the Treatment of Insurgents and Non-Combatants:
    a. Five questions, scored on a five-point scale ranging from Strongly Disagree to Strongly Agree.
    b. A sample item is "All non-combatants should be treated with dignity and respect."

2. Dimension 2: Battlefield Ethical Behaviors and Decisions
    a. Five questions scored on a scale from Never, One Time, Two Times, Three or Four Times to Five or More Times
    b. A sample items is "Insulted and/or cursed non-combatants in their presence."

3. Dimension 3: Reporting Ethical Violations
    a. Six questions scored on a five-point scale ranging from Strongly Disagree to Strongly Agree
    b. A sample item is "I would report a unit member for the mistreatment of a non-combatant."

4. Dimension 4: Battlefield Ethics Training
    a. Five scored on a "Yes" or "No" response scale
    b. A sample item is "The training I received in the proper (ethical) treatment of non-combatants was adequate."

The four dimensions provide different information and fit into different parts of the conceptual model presented in Figure 1. Battlefield ethics training (Dimension 4) theoretically serves as a protective factor as does a Soldiers' willingness to report ethical violations (Dimension 3). They are protective because high responses to either Dimension 3 or Dimension 4 should be associated with a reduction in the number of unethical behaviors reported by Soldiers.

Attitudes regarding the treatment of insurgents and non-combatants (Dimension 1) may be influenced by training and may also be a pre-cursor to behavior. Social psychological literature indicates that the direct link between attitudes and actual behavior is quite weak (Fishbein & Ajzen, 1976); therefore in this report, we focus on modeling reported behavior (Dimension 2) rather than focus on attitudes (Dimension 1).

One of the central findings from MHAT IV was that Soldiers and Marines were more likely to report they had engaged in unethical behavior if they had also screened positive for behavioral health problems such as depression, anxiety or acute stress. Therefore, this section of the reports re-examines the relationship between unethical behaviors and behavioral health status. In a latter section, the report examines the impact of months deployed and combat experiences (see Section 6.3.7). Below is an assessment of whether reports of unethical behaviors have changed from 2006 to 2007.

5.8.1 Reports of Unethical Behaviors Compared to 2006

The incidence of unethical behavior is determining by whether Soldiers report that they or their unit have ever:

1. Insulted and/or cursed non-combatants in their presence
2. Damaged and/or destroyed private property when it was not necessary
3. Physically hit/kicked a non-combatant when it was not necessary
4. "Modified" the rules of engagement in order to accomplish the mission
5. "Ignored" the rules of engagement in order to accomplish the mission

As noted in the limitations section of this report (Section 3.2.1), one of the potential limitations associated with interpreting the ethics questions is that it was necessary to use un-validated scales. As such, there are no established norms upon which to help interpret the items. The current report therefore examines responses relative to 2006. The comparison of responses across 2006 and 2007 is presented in Table 3. Using the convention p-value of $p < .05$, the analyses reveal that Soldiers report a significant decline in whether members of their unit modify the rules of engagement.

Table 3: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months.

Unethical Behavior Variable	Percent Reporting One Time or More: MHAT IV 2006	Percent Reporting One Time or More: MHAT V 2007	p-value
1. Insulted and/or cursed non-combatants in their presence.	34.6%	33.0%	0.403
2. Damaged and/or destroyed private property when it was not necessary.	10.9%	13.6%	0.054
3. Physically hit/kicked a non-combatant when it was not necessary.	5.3%	6.1%	0.377
4. Members of my unit "modify" the Rules of Engagement in order to accomplish the mission.	10.0%	7.4%	0.024
5. Members of my unit "ignore" the Rules of Engagement in order to accomplish the mssion.	5.7%	4.3%	0.107

5.8.2 Mental Health and Unethical Behaviors

In 2006, MHAT IV reported that Soldiers who screened positive for mental health problems were more likely to report engaging in unethical behaviors. This finding was replicated using the MHAT V data from 2007. Specifically, Soldiers who screened positive for mental health problems of depression, anxiety, or acute stress were significantly more likely to report engaging in unethical behaviors. In part, this relationship might be because those who screen positive typically spend more time outside the wire and thus have more opportunity to interact with non-combatants. However, when statistical models control for the average number of hours per week Soldiers spend outside the wire, the mental health status is still a significant predictor. Table 4 provides the adjusted means for self-reports of unethical behaviors by whether or not a Soldier was positive for mental health problems. Notice that screening positive for mental health problems is strongly associated with the likelihood that a Soldier will report engaging in unethical behaviors.

Table 4: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months who Report Being Outside the Wire 24 Hours a Week.

Unethical Behavior Variable	Positive for Mental Health Problem: No	Positive for Mental Health Problem: Yes	p-value
1. Insulted and/or cursed non-combatants in their presence.	26.5%	48.4%	0.00
2. Damaged and/or destroyed private property when it was not necessary.	9.9%	19.1%	0.00
3. Physically hit/kicked a non-combatant when it was not necessary.	3.8%	10.2%	0.00

5.9 Summary of Behavioral Health and Performance Indices

The examination of Soldier behavioral health in comparison to 2006 and other MHAT data reveal several positive trends: Soldiers' ratings of unit morale showed a large increase relative to 2006, and Soldiers' reports of stress-related performance problems significantly declined relative to 2006. In terms of unethical behaviors, Soldiers reported a significant decline in the degree to which their units modify the rules of engagement. One of the key risk factors remains whether or not Soldiers screen positive for mental health problems.

6. SOLDIER RISK FACTORS

The examination of risk factors serves several purposes. First, it provides a theoretical basis from which to explain changes in Soldier behavior health and reported performance indices. As noted in section 5, Soldiers in 2007 report increases in unit morale, and a decrease in the degree to which stress or emotional problems have impacted their work. Based on these improvements in health and performance outcomes, it would be reasonable to expect that risk factors are lower in 2007 relative to 2006. This expectation will be formally tested in this section.

The second purpose served by examining risk factors is to identify potential risk factors unique to the OIF 06-08 deployment. Two risk factors potentially unique to this deployment are (a) the length of the deployment and (b) the potential cumulative impact of deploying multiple times. The effect of multiple deployments is unique because in 2007 a fairly large sample of Soldiers have deployed to Iraq three or four times.

A third reason to examine risk factors is to specifically focus on those known risk factors that can be directly influenced by command and/or mental health providers. To this end, the final part of this section focuses on the relationship between sleep deprivation and behavioral and performance related problems.

6.1 Combat Experiences

Exposure to potentially traumatic experiences is one of the principal risk factors for behavioral health problems in combat settings (Fontana & Rosenheck, 1998). In the Soldier Well-Being Survey, combat experiences are measured with 33 items assessing experiences such as "Knowing someone seriously injured or killed" and "Being wounded/injured". A combat experience score (ranging from 0 to 33) is created by summing the number of reported experiences.

Figure 9 displays the relationship between the combat experiences score and the acute stress score. Increases in the combat experience score are associated with an increase in the acute stress score. Deviations from the overall trend (for example the value associated with 27 experiences) are largely due to a small number of respondents in the extreme values of the combat experiences score (>25). The small number of respondents at the extreme values is reflected both by the thin rectangles in the main plot and the low frequency in the small embedded histogram – notice in the small figure how the percentages of Soldiers endorsing items drops as the combat experiences scale increases.

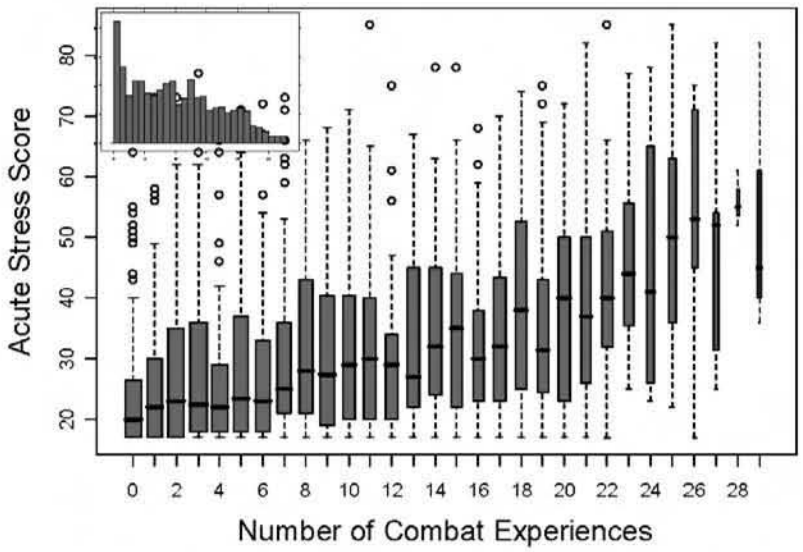

Figure 9: Relationship Between Combat Experiences Acute Stress Scores

Given the importance of combat experiences in terms of behavioral health, the following sections provide a detailed examination of (a) changes on specific items, (b) identify the most frequently endorsed items, and (c) examine variability across company-sized units.

6.1.1 Combat Experiences Compared to MHAT IV

Table 5 provides the adjusted percents for items that significantly differed from 2006 to 2007 (Appendix C contains raw percents for all 33 items for MHAT IV and MHAT V). With a conventional p-value of .05, the large number of analyses (33 different tests) raises the possibility that one or two significant results would be observed simply because of the high number of tests conducted; therefore to adjust for the increase in the family-wise error rate, Table 5 only list results with a p-value equal to or less than .01. By using this more stringent p-value, the differences represented in Table 5 are more likely to represent meaningful differences.

Table 5: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months.

Combat Experiences	Percent MHAT IV 2006	Percent MHAT V 2007	p-value
Being attacked or ambushed.	66.2%	52.2%	0.00
Receiving small arms fire.	67.5%	59.3%	0.00
Witnessing an accident which results in serious injury or death.	43.5%	37.0%	0.00
IED/Booby trap exploded near you.	70.2%	52.3%	0.00
Working in areas that were mined or had IEDs.	75.8%	64.5%	0.00
Having hostile reactions from civilians.	56.2%	44.2%	0.00
Being in threatening situations where you were unable to respond because of the ROE.	55.5%	40.9%	0.00
Shooting or directing fire at the enemy.	46.5%	38.0%	0.00
Clearing/searching caves or bunkers.	19.4%	15.5%	0.01
Receiving incoming artillery, rocket or mortar fire.	88.1%	79.7%	0.00
Had a close call, dud landed near you.	30.7%	24.4%	0.00

Table 5 shows that 11 of the 33 combat experiences significantly differed. Notice that all the significant changes represent declines – none of the 33 combat experiences increased relative to 2006. Table 5 provides strong evidence that Soldiers' exposure to potentially traumatic combat experiences has declined. Further evidence of a recent decline in combat intensity is evident from significant interactions between months deployed and data collection year (2006 and 2007). Figure 10 shows the predicting percent of E1-E4 male Soldiers that report being attacked or ambushed over the first 12 months. At month 9 (the time period plotted in Table 5) the data from 2007 is lower than in 2006; however, the difference between years is more evident for Soldiers in the first six months of their deployment. For instance, only 21.5% of male E1-E4 Soldiers in their second month of deployment in 2007 report being attacked or ambushed. In 2006, the value was over double that percent at 50.8%.

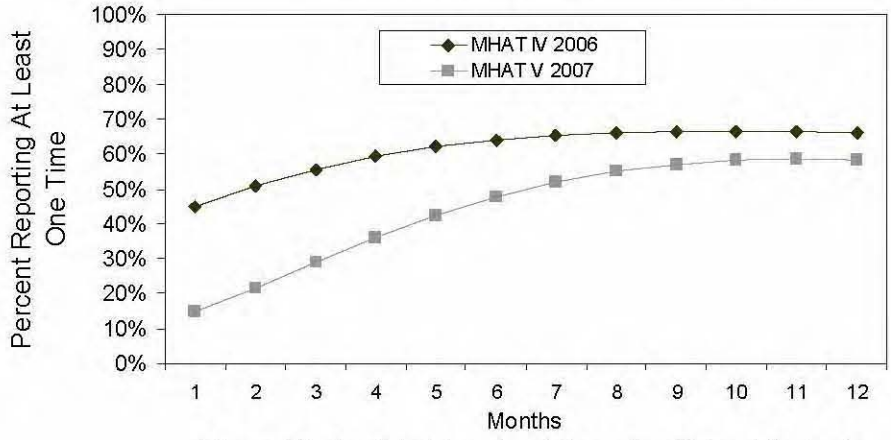

Figure 10: Predicted Levels of Reporting Being Attacked or Ambushed by Month in Theater for E1-E4, Male Soldiers

6.1.2 Most Common Experiences

While the comparison across years indicates a reduction in combat intensity, it is nonetheless important to realize that the Soldiers surveyed during MHAT V have experienced intense combat experiences while deployed to Iraq. This is best illustrated by examining the raw percentages for the five most frequently reported events across all respondents from 2007 compared to raw percents from 2006.

1. Receiving incoming artillery, rocket or mortar fire [2007, 78.4%; 2006, 82.8%]
2. Knowing someone seriously injured or killed [2007, 72.1%; 2006, 65.9%]
3. Seeing destroyed homes and villages [2007, 61.1%; 2006, 61.1%]
4. Seeing dead bodies or human remains [2007, 60.2%; 2006, 57.4%]
5. Working in areas that were mined or had IEDs [2007, 59.8%; 2006, 67.7%]

Notice in particular the high reported rates of knowing someone seriously injured or killed relative to 2006. Clearly, for the sample as a whole, OIF 06-08 has placed intense psychological demands on a large number of Soldiers (see also Appendix C).

6.1.3 Unit-Level Variation in Combat Exposure

Soldiers' responses to the combat experiences scale vary significantly depending upon their Company. Members of some companies collectively report very low combat experiences, while members of other companies report very high combat experiences. Group-level analyses in the form of a null mixed-effects model provide a way to partition the total variance into a shared group-level component and an individual component. In MHAT V data, the lowest level at which group-level clustering is available is the Company. Even at this level, however, there is strong evidence of consistency among group members in terms of responses to combat experience items. Specifically, 45.2% of the total variance in combat experiences can be explained by Company membership (in comparison Bliese, 2000; 2006, notes that perceptions of other shared group-level properties such as leadership rarely explain more than 15% of the total variance).

Figure 11 shows the average ratings of combat experiences across groups. To be included, a unit must have had five members provide data. The graph shows that unit means range from close to 1 to over 20. The solid line shows the expected distribution of scores if Soldiers' responses were independent of group membership (dotted lines are approximate 95% confidence intervals). The graph shows that reports of combat experiences vary greatly across Companies and individual reports of experiences are highly influenced by the groups to which they belong. Overall, these results provide evidence that Soldiers' reports of combat experiences reflect events that occurred within Companies. The results also highlight why risk for combat-related mental health problems varies widely among Companies.

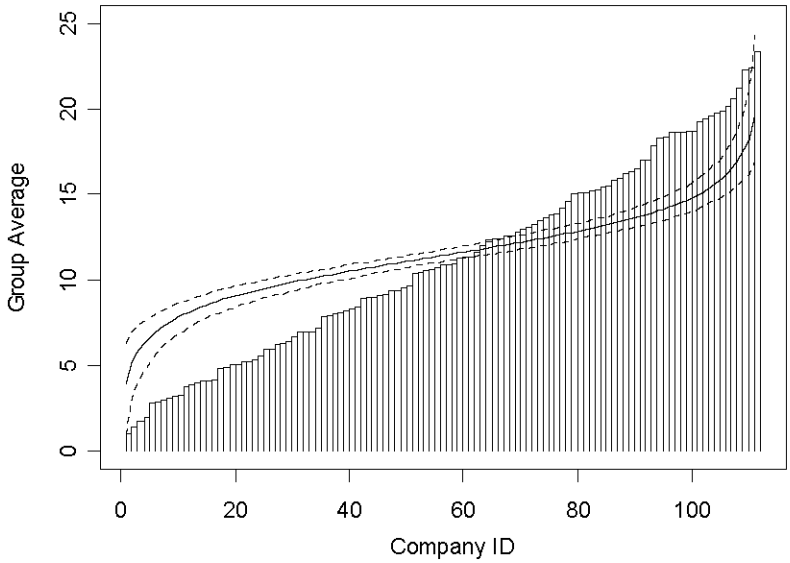

Figure 11: Company Averages of Combat Exposure Relative to Random Expected Average

6.1.4 Sniper Attacks

In MHAT IV, the team noted that Soldiers were reporting high exposure to sniper fire and recommended adding an item to assess the prevalence of exposure to this experience. In 2007, this item was included and the percentage across all respondents for this combat experience was 31.3%. Future MHAT assessments can examine trends relative to the 2007 value.

6.2 Deployment Concerns

Combat experiences are intense events that put Soldiers at risk for mental health problems. From a behavioral health perspective, however, less dramatic chronic concerns have also been shown to negatively relate to health. Indeed, in some ways less dramatic, chronic concerns may have more of a negative influence on health than intense, vivid events (an argument made by Gilbert, Lieberman, Morewedge, and Wilson, 2004 in an article entitled "The Peculiar Longevity of Things Not So Bad").

In the MHAT surveys, less dramatic, chronic events are captured with a series of 11 deployment concerns rated on a scale from 1 (very low trouble or concern) to 5 (very high trouble or concern).

1. Being separated from family
2. Illness or problems back home
3. Boring and repetitive work
4. Difficulties communicating back home
5. Uncertain return date
6. Lack of privacy or personal space
7. Lack of time off, for personal time
8. Not having the right equipment or repair parts
9. Not getting enough sleep
10. Continuous operations
11. Long deployment length

Statistical models confirmed that even after accounting for combat experiences, each item predicted unique variance in the probability a Soldier would report a behavioral health problem. The item with the strongest relationship to mental health problems was concern about being separated from family – the adjusted percent of mental health problems for a male, E1-E4, Soldier with average combat exposure who had been in theater 9 months with low concerns about being separated from family was 6.0%. In contrast, the adjusted percent for mental health problems for a Soldier who had high concerns about being separated from family was 26.3%.

6.2.1 Specific Concerns Compared to MHAT IV

To determine how concerns have changed from 2006 to 2007, a series of analyses similar to those for combat experiences were conducted. Table 6 presents the results. Because fewer tests are being conducted (11 versus 33 for combat experiences), any comparison with a p-value of less than .05 is considered statistically significant. The most revealing aspect of Table 6 is that there were no significant increases relative to 2006. Six of the 11 concerns significantly declined, and the remaining five concerns either remained the same or did not decline enough to be considered a significant change. Notice that even with the increase in deployment length between 2006 and 2007, the item addressing long combat deployments did not statistically differ between the two years.

Table 6: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months.

	Percent rating High or Very High		
Trouble or Concern Caused By	MHAT IV 2006	MHAT V 2007	p-value
Being separated from family.	47.7%	42.6%	0.01
Illness or problems back home.	28.7%	24.5%	0.02
Boring and repetitive work.	45.2%	44.1%	0.57
Difficulties communicating back home.	28.8%	21.4%	0.00
Uncertain redeployment date.	43.2%	41.8%	0.47
Lack of privacy or personal space.	44.1%	43.6%	0.79
Lack of time off, for personal time.	44.1%	40.9%	0.09
Not having the right equipment or repair parts.	31.9%	25.2%	0.00
Not getting enough sleep.	36.4%	32.0%	0.02
Continuous operations.	38.8%	33.3%	0.00
Long deployment length.	57.1%	57.1%	0.99

6.2.2 Top Concerns in MHAT V

While the normalized comparison across years generally indicates a reduction in concern intensity, it is important to recognize that rates of concern for MHAT V are higher than those listed in Table 6 when based on the entire sample. For instance, in the entire MHAT V sample, 60.8% of the Soldiers report high or very high concern about deployment length (a 3.7% increase over the normalized rate of 57.9%). Also, there is some re-ordering of factors in the total sample. For instance, the top concern for the sample as a whole was long deployment length (as reflected in Table 6); however, the second concern was being separated from family

(45.2%) rather than boring and repetitive work (the second concern in Table 6). In short, deployment length concerns and family concerns were the major concerns reported by the sample as a whole.

6.3 Deployment Length

In the preceding analyses, the number of months a Solder has deployed has been included as a control variable. Doing so has provided a way to examine changes in morale, health, performance ratings, unethical behaviors, combat experiences, and concerns between 2006 and 2007 while adjusting for the fact that Soldiers in the 2007 sample have, on average, 1.5 more months of deployment time.

This section, however, specifically focuses on the relationship between deployment length and health and performance-related outcomes. For a number of the analyses, subsequent statistical models also examine the role of combat experiences as they relate to months to determine if (a) the effects of deployment length are a function of increased exposure to combat experiences or (b) whether deployment length is a unique risk factor beyond its association with combat experiences.

The MHAT V sample is well-suited for examining the effects of deployment length on outcomes such as mental health because the sampling plan and the large sample size of 2,195 provided a wide range of data across months. Figure 12 presents a visualization of the number of surveys completed per month deployed. Notice that most surveys were completed by Soldiers in their eleventh month of the deployment; however, there are also fairly large numbers at two, six, nine, 12 and 13 months. This wide range provides the opportunity to model months deployed as a continuous variable.

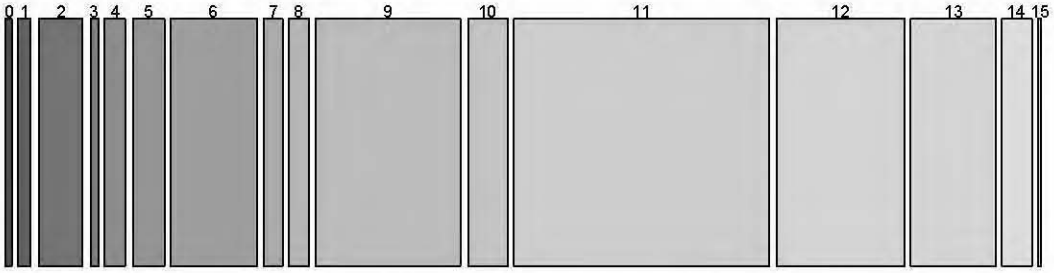

Figure 12: Number of Surveys and Number of Months Deployed (N=2,195)

6.3.1 Deployment Length and Morale

The number of months deployed was related to both individual and unit morale. For both individual and unit morale the form of the curve had both a linear and positive quadratic component. The form of the relationship is presented in Figure 13. In the figure, ratings of morale were initially high and fell to their lowest levels at months 8, 9 and 10 before gradually increasing.

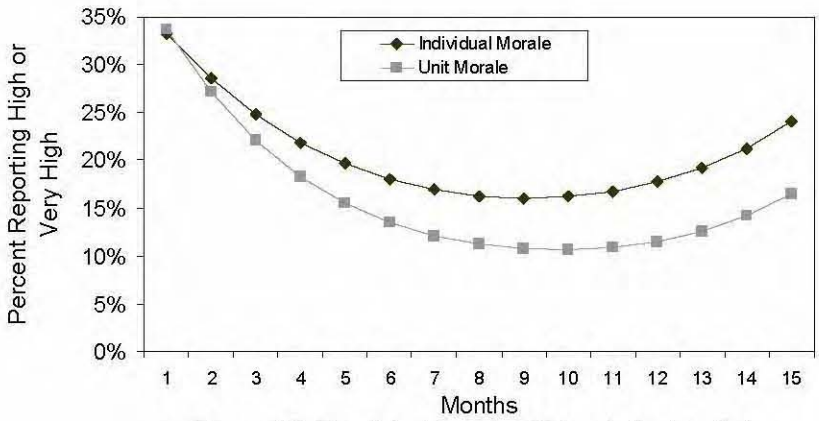

Figure 13: Predicted Levels of Morale by Month in Theater for E1-E4, BCT Male Soldiers

Subsequent analyses were conducted to determine whether the changes in morale were related to cumulative combat experiences. These analyses indicated that combat experiences were unrelated to ratings of either individual or unit morale. These results suggest that the form of the curve provided in Figure 13 is independent of combat experiences.

A final set of analyses examined whether the linear and quadratic trend in ratings of unit morale would remain consistent if the nested nature of the data were controlled. This is potentially important because ratings of unit morale are highly influenced by group membership. In the MHAT V data, a null mixed-effects model estimated that 14.6% of the variance in unit morale could be explained by group membership. In comparison only 5.5% of the variance in individual morale is influenced by group membership. The results of a random-intercept, generalized linear mixed effects model for unit morale confirmed both the significant linear and quadratic terms illustrated in Figure 13.

6.3.2 Deployment Length and Behavioral Health

Figure 14 illustrates the relationship between months deployed and the combination of being positive for depression, anxiety or acute stress (any mental health problem). The figure shows a linear increase with some degree of leveling off or decrease for the latter months. It is unclear why this decrease occurs. The decrease could be due to the optimism about being able to return home or by theater psychiatric evacuations in the early months of the deployment. As with morale, the highest risk times are eight, nine and 10 months. In Figure 14 it is important to point out that the model predicts a three-fold increase in the number of male, E1-E4 Soldiers that will be positive for mental health problems at the15th month of the deployment. It is also important to consider that with shorter deployments, the shape of the curve might be the same as that shown in Figure 14; however, with shorter deployments the apex of the curve might not reach the same high point as it did in Figure 14.

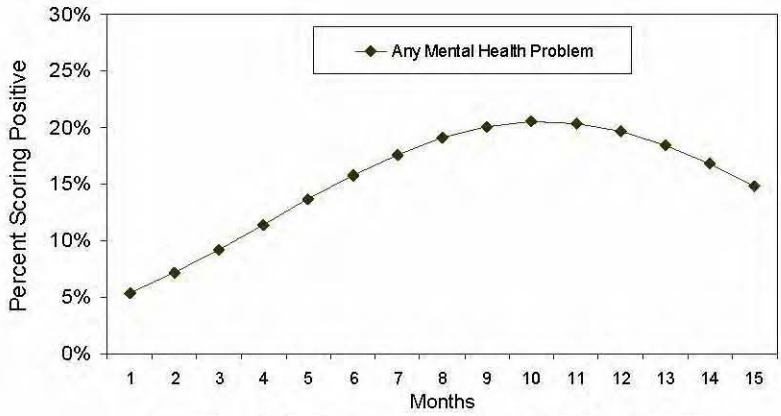

Figure 14: Predicted Levels of Mental Health Problems by Month in Theater for E1-E4, BCT Male Soldiers

While months in theater are strongly predictive of mental health problems, months in theater are also related to the number of combat experiences. In a predictive model including both linear effects for months deployed and combat experiences, the effect of months is no longer significant. This provides evidence of full mediation (MacKinnon, et al., 2002) and implies the following causal model:

Increased Months Deployed → Increased Combat Experiences → Mental Health Problems

When both linear and quadratic terms are included for combat experiences and months, the quadratic effect for months remains significant. This suggests that the decline in mental health problems in the last months of the deployment is independent of combat experiences.

In sum, the behavioral health results suggest that the post six-month period is a heightened risk time for mental health problems (a finding noted in MHAT IV) and that reports of mental health problems level off in the months immediately before redeployment. Causally, the results indicate that the increase in risk for mental health problems over months deployed is a function of increases in combat experiences while the downturn in reported problems post 10 months occurs separately from the effects of combat experiences – presumably due to redeployment optimism. Nonetheless, the adjusted percent of Soldiers reporting mental health problems at month 15 is significantly higher than the percent reporting problems in the early months, and re-deployment research strongly suggests that rates will rise when Soldier return (Bliese, et al., 2007).

6.3.3 Deployment Length and Suicide Ideation

The relationship between deployment length and suicide ideation is examined in detail in section 14.4.

6.3.4 Deployment Length, Stress and Work Performance

The number of months deployed had primarily a linear relationship to whether Soldiers reported that stress or emotional problems had (a) limited their ability to do their jobs, and (b) caused them to work less carefully than usual, and (c) caused their supervisor to be concerned about their performance. The form of this relationship is presented in Figure 15. Notice that the only variable to show a quadratic trend was reports of working less carefully which leveled off and slightly declined after month 12. Subsequent analyses indicated that the linear increase over

time, like the one for morale, is independent of cumulative combat experiences. As with mental health problems, the cumulative effects of months deployed has a pronounced effect on reports of work performance by month 15.

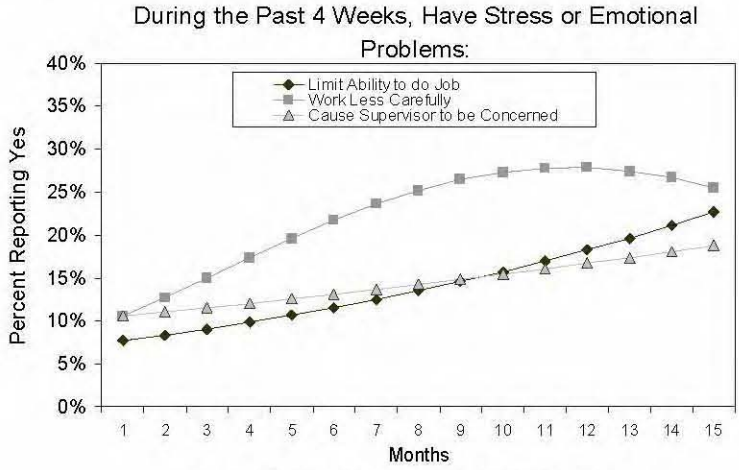

Figure 15: Predicted Levels by Month in Theater for E1-E4, BCT Male Soldiers

6.3.5 Deployment Length and Divorce

The number of months deployed has a statistically significant linear relationship with married Soldiers reports of whether they plan on getting a divorce or separation. Figure 16 provides estimates for NCOs and Officers in addition to junior enlisted Soldiers because many NCOs and Officers are married. Notice that in the first few months of the deployment, approximately 6% of NCOs indicate they are planning on getting a divorce. In contrast, by the 14th and 15th month in theater, the value is over 20%.

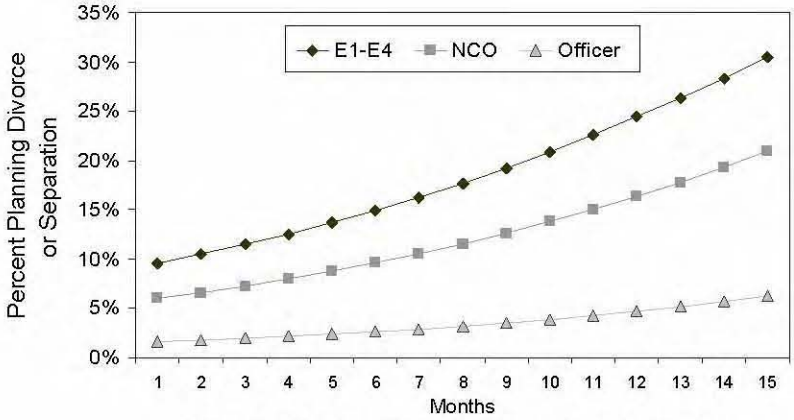

Figure 16: Predicted Levels of Plans to Get a Divorce or Separation by Month in Theater

6.3.6 Deployment Length and Substance Abuse

Deployment length was a significant predictor of Soldiers' reports of use of inhalants and alcohol (see Figure 17). Reports of both alcohol and inhalants showed significant quadratic effects: reported alcohol abuse tapered off after month 11, and reported use of inhalants peaked between 8 and 9 months. In subsequent analyses, the effects of months in theater were

significant after controlling for combat exposure indicating that the effects presented in Figure 17 occur independently of levels of combat exposure.

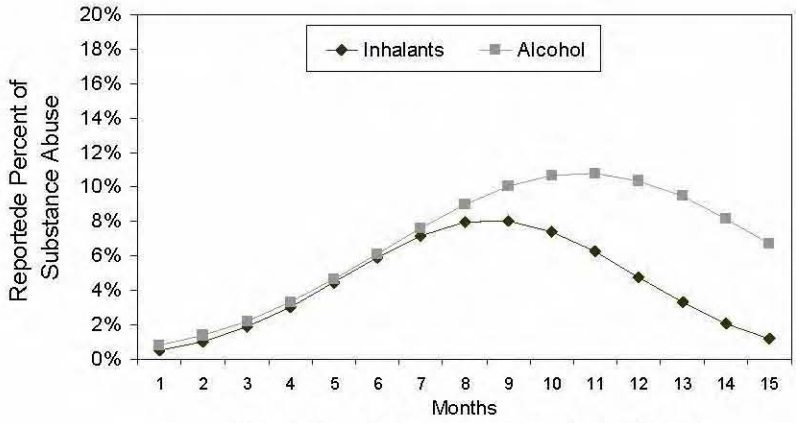

Figure 17: Predicted Levels Substance Abuse by Month in Theater for E1-E4 Male BCT Soldiers

6.3.7 Deployment Length and Unethical Behaviors

Deployment length was also significantly related to the probability that a Soldier would report having engaged in unethical behaviors (see Figure 18). The form of the relationship for all three unethical behavior variables was a rise in the first 10 months of a deployment followed by a decline after month nine.

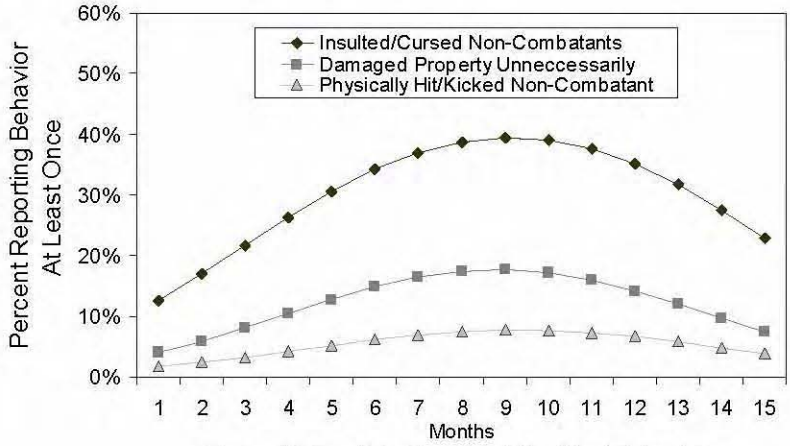

Figure 18: Predicted Levels of Unethical Behaviors by Month in Theater for E1-E4 Male BCT Soldiers

In subsequent models, combat experiences served as a full mediator of the linear relationship between months deployed and reporting unethical behaviors such that:

Increased Months Deployed → Increased Combat Experiences → Unethical Behaviors

The models also suggested, however, that the down-turn in reported unethical behaviors occurred independently of combat experiences. That is, levels of combat experiences cannot explain the decline in reports of unethical behaviors after the 9th month deployed.

To determine whether specific combat exposures acted as mediators between months deployed and reports of insulting or cursing at non-combatants, a series of mediation tests were conducted. In the tests for mediation, nine items by themselves eliminated the relationship between months deployed and reports of insulting or cursing at non-combatants. This suggests that Soldiers who experience these items may be particularly at risk of reporting engaging in unethical behaviors. The nine items are:

1. Being attacked or ambushed
2. Receiving small arms fire
3. Seeing dead bodies or human remains
4. Handling or uncovering human remains
5. Seeing dead or seriously injured Americans
6. IED/booby trap exploded near you
7. Being in threatening situations where you were unable to respond because of the Rules of Engagement
8. Shooting or directing fire at the enemy
9. Encountering sniper fire

6.4 Effect of Multiple Deployments

Both the MHAT III report in 2005 and the MHAT IV report in 2006 identified multiple deployments as a risk factor for mental health problems. In previous years, analyses have examined the effects of multiple deployments by comparing first-time deployers with those who had deployed at least one previous time. In both 2005 and 2006, however, the multiple deployment group was almost entirely comprised of Soldiers on their second deployment. In 2007, in contrast, the sample contains a sufficiently large number of individuals on their third or fourth deployment making it possible to create three deployment groups: first-time deployers (n=1,496), second-time deployers (n=538), and third/fourth time deployers (n=129) with 32 Soldiers unknown.

In presenting the results related to multiple deployments, results are provided for NCOs rather than for E1-E4 Soldiers. This is done because Soldiers in the multiple-deployer group are predominately NCOs. Specifically, in the first-time deployer group, NCOs constitute 19.0% of the sample; in the group on their second deployment, NCOs constitute 60.8% of the sample, and in the group on their third/fourth deployment, NCOs constitute 74.4% of the sample.

6.4.1 Multiple Deployments and Morale

Figure 19 shows adjusted rates of morale for male NCOs deployed for 9 months. NCOs on their second or third/fourth deployments have significantly lower morale than NCOs on their first deployment (although the difference for third/fourth deployers compared to first-time deployers for unit morale has a p-value less than .10 rather than less than .05). In the figure, the difference between those on a second deployment and those on their third/fourth for individual and unit morale is not statistically significant.

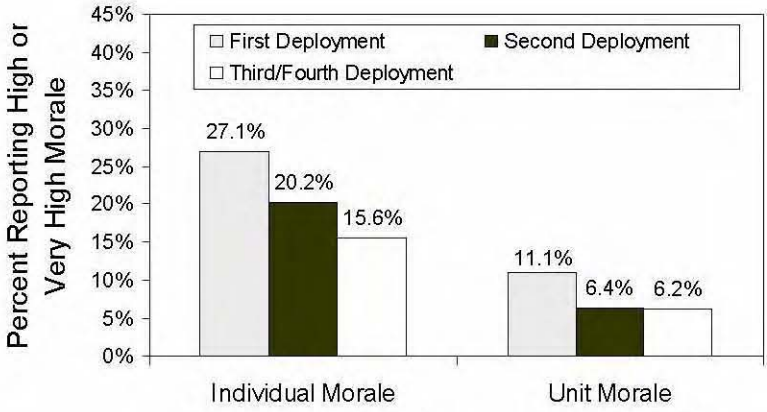

Figure 19: Adjusted Percents for Male NCOs in Theater 9 Months

6.4.2 *Multiple Deployments and Behavioral Health*

Both the MHAT III and MHAT IV report found that the behavioral health status of Soldiers on their second deployment was significantly lower than the health of those on their first deployment. This finding was replicated in the 2007 sample and extended in terms of showing additional declines on the third/fourth deployment. The form of the relationship is illustrated in Figure 20 for the combined behavioral health measure of being positive for depression, anxiety or acute stress. An NCO on his or her second or third/fourth deployment reports significantly more mental health problems than does an NCO on his or her first deployment. Furthermore, the value for NCOs on their third/fourth deployment (adjusted percent of 27.2%) is significantly difference from the value for NCOs on their second deployment (adjusted percent of 18.5%).

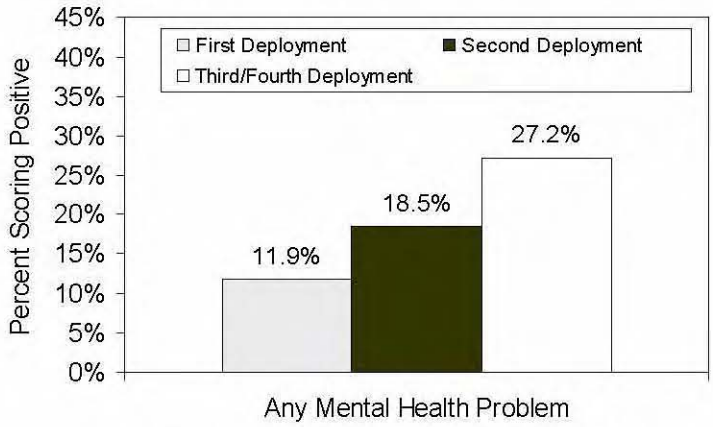

Figure 20: Adjusted Percents for Male NCOs in Theater 9 Months

6.4.3 *Multiple Deployments and Suicide Ideation*

Soldiers' reports of suicide ideation were unrelated to the number of deployments.

6.4.4 *Multiple Deployments, Stress and Work Performance*

Three different statistical models were run to examine whether there was a multiple deployment effect for whether Soldiers reported that stress or emotional problems in the last 4 weeks (a)

limited their ability to do their job, (b) caused them to work less carefully than usual, or (c) caused their supervisor to be concerned about their performance.

Results indicated that Soldiers in their third/fourth deployment were significantly more likely than first time deployers to report that stress or emotional problems (a) limited their ability to do their job, and (b) caused their supervisor to be concerned. Soldiers on their second deployment did not differ from either first-time deployers or third/fourth time deployers. Figure 21 provides adjusted percents for male NCOs.

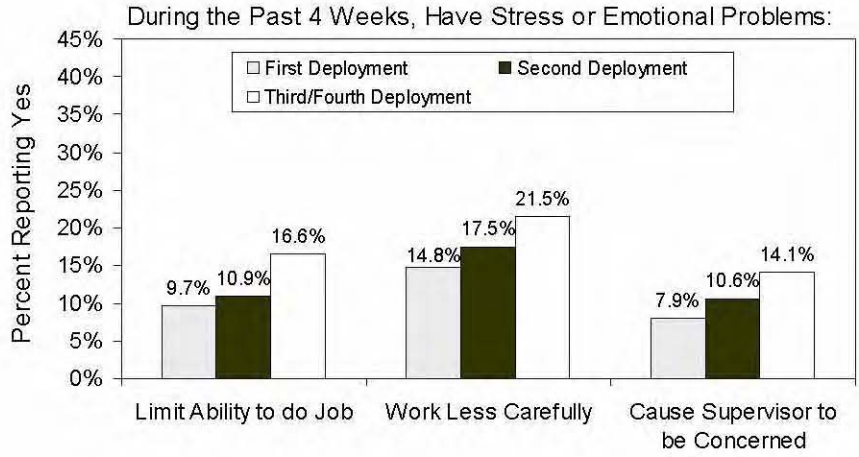

Figure 21: Adjusted Percents for Male NCOs in Theater 9 Months

6.4.5 Multiple Deployments and Divorce

Statistical models examining whether there was a multiple deployment effect associated with Soldiers reporting that they were planning to get a divorce or separation found no relationship.

6.4.6 Multiple Deployments and Substance Abuse

Models examining the effects of multiple deployments found no relationship between multiple deployments and either use of (a) inhalants or (b) illegal drugs/substances. There was, however, a multiple deployment effect associated with using alcohol. Soldiers on their second deployment were significantly more likely to report using alcohol. The adjusted percent for an NCO male in theater for nine months on his first deployment was 4.3% whereas the corresponding number for an NCO on his second deployment was 6.8%.

6.4.7 Multiple Deployments and Unethical Behavior

As with suicide, divorce and work performance, there was no relationship between multiple deployments and reports of unethical behaviors.

6.5 Sleep Deprivation

Sleep deprivation is a risk factor for behavioral health and performance problems. Importantly, from a prevention perspective, sleep problems and sleep deprivation represent manageable risk factors. In 2007, the MHAT V survey included a number of items assessing Soldiers' reports of sleep as a way to examine the relationships between sleep deprivation in the combat zone and Soldiers' reports of behavioral health and performance.

Across the entire sample, Soldiers reported needing 6.4 hours sleep to feel well rested, and they reported receiving 5.6 hours of sleep per day. Both of these values are less than the 7 to 8 hours a night shown to be necessary to maintain optimal cognitive functioning (see Appendix F). The difference between what Soldiers report needing and what they report receiving represents a sleep deprivation value of 0.8 hours per day. There was, however, considerable variability across individuals. In all, 44.6% of the Soldiers reported no sleep deprivation; 52.1 reported some degree of sleep deprivation, and 3.2% had missing data.

6.5.1 Sleep and Behavioral Health

Sleep problems are related to depression and acute stress. Theoretically, it is unclear whether sleep problems are a symptom of mental health problems or whether sleep problems are a precursor of mental health problems (see Picchioni et al., 2007). What is clear, however, is that Soldiers' who report being sleep deprived are at significant risk of reporting mental health problems. For instance, in the MHAT V data, only 11.7% of male E1-E4 Soldier in theater 9 months who reported no sleep deprivation were positive for depression, anxiety or acute stress. In contrast, 23.1% of the Soldier who reported two hours of sleep deprivation screened positive for depression, anxiety or acute stress (see Figure 22).

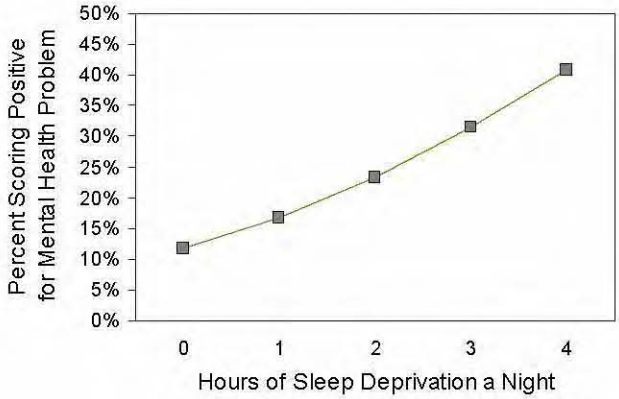

Figure 22: Adjusted Percents for Male E1-E4 Soldier in Theater for 9 Months

6.5.2 Sleep and Reports of Accidents and Mistakes

In addition to health, sleep deprivation has a known negative link to performance. Indeed, even relatively small amounts of sleep deprivation showing a cumulative performance decline over time (Belenky et al., 2003; Bliese, et al, 2006; Van Dongen et al., 2003). In MHAT V, this relationship can be examined several ways. Figure 23 plots Soldiers' ratings of the degree to which stress and emotional problems have impacted their work performance as a function of whether they report no sleep deprivation or one-hour of sleep deprivation. The figure shows that even reporting one hour of sleep deprivation is significantly associated with increased work-related problems.

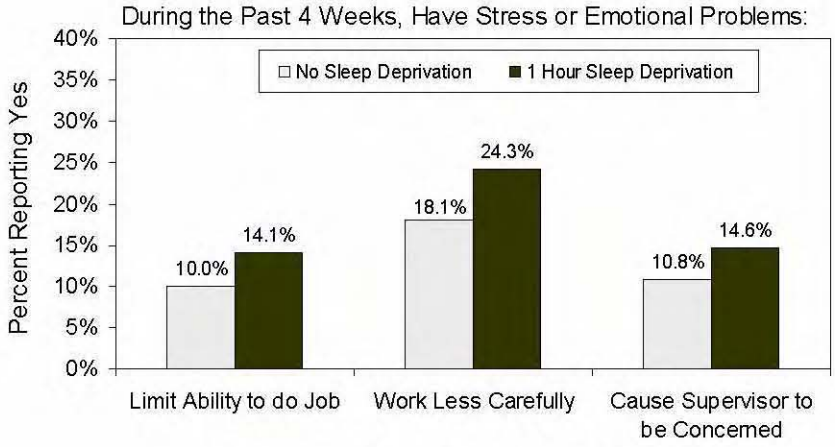

Figure 23: Adjusted Percents for Male E1-E4 in Theater 9 Months

The relationship between sleep and performance can also be assessed by examining Soldiers' responses to the item "During this deployment, have you had an accident or made a mistake that affected the mission because of sleepiness?" Analyses revealed that Soldiers who reported being sleep deprived are more likely to report having had an accident or made a mistake due to sleepiness.

Importantly, however, there are significant rank differences in the degree to which Soldiers' report that sleep deprivation is associated with making accidents and mistakes. Junior enlisted Soldiers who report being sleep deprived also report an increase in being involved in a sleep-related mistake or accident. In contrast, officers who report sleep deprivation report no increase in reported accidents and mistakes. This relationship is illustrated in Figure 24. Under conditions of sleep deprivation, officers report a slight decline in reported accidents and mistakes. While somewhat speculative, these findings imply that officers may underestimate the degree to which sleep deprivation is associated with performance declines.

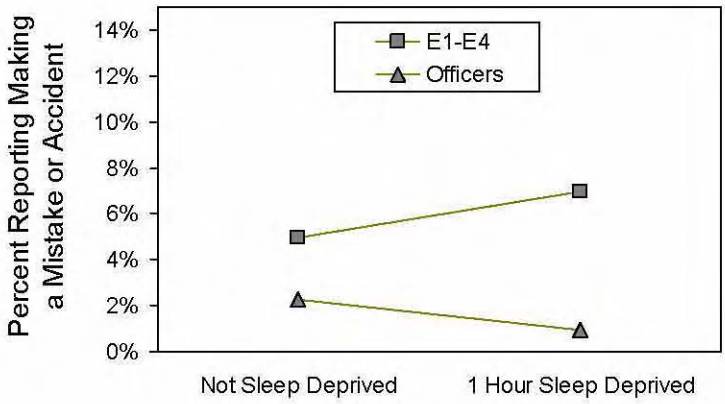

Figure 24: Predicted Values for Male Soldiers in Theater 9 Months

6.6 Summary of Risk Factors

Compared to 2006, the intensity of combat appears to have significantly declined with the decline particularly pronounced among those who have been in theater for a few months. As a whole, however, the Soldiers deployed to OIF 06-08 have clearly witnessed a high degree of intense combat events while deployed. In particular, a high percent of the sample reported knowing someone seriously injured or killed. As with combat experiences, on a normalized basis, many deployment concerns are lower than in 2006. On an un-adjusted basis, concerns about deployment length and being separated from family are high among the 2007 sample.

The sample collected for MHAT V allowed a detailed analysis of the relationship between deployment length and a variety of mental health outcomes. In some cases such as with (a) reports of getting a divorce or separations or (b) most reports of stress and emotional problems impacting work, the relationship was linear. In these cases, each passing month deployed increased the probability that a Soldier would report being positive on the problem. In a number of other cases, the relationship was curvilinear so that towards the end of the deployment, the probability of problems decreased. Even with the curvilinear patterns, however, a much higher percent of Soldiers reported problems at the end of the deployment than at the beginning.

One of the most dramatic findings centered on the effects of multiple deployments. As a group, those Soldiers who were on their second deployment or on their third/fourth deployment were at increased risk for low morale, mental health problems and degraded performance due to stress or emotional problems.

7. SOLDIER PROTECTIVE FACTORS

In the conceptual model used to guide this report, the area of protective factors represents the area most amenable to intervention. In this section we examine unit social climate (leadership, readiness and cohesion), willingness to seek care, reducing barriers to care, R&R, family and marital support, willingness to report ethical violations and training as protective factors.

7.1 Leadership, Readiness, and Cohesion

Social factors within platoons and companies presumably play a critical role in how well unit members respond to combat experiences. A memorable illustration of the importance of social factors in combat was recounted in Shils and Janowitz's (1948) description of the resiliency of the German *Wermacht* in World War II. Shils and Janowitz convincingly argued that the cohesion of the German units allowed them to maintain morale and performance under intense combat stressors.

Empirical evidence for Shils and Janowitz's proposition has been found in studies of Soldiers in both deployed and garrison settings. In military research, a common trend has been to deconstruct the social environment into separate components such as the leadership climate (Bliese & Castro, 2000) and training readiness (Jex & Bliese, 1999) and examine the protective effects of the separate climate dimensions. While this approach potentially pin-points relevant aspects of the social environment for specific situations, one limitation with the approach is that indices of social functioning tend to be highly related. For instance, units that have positive perceptions of unit leaders also tend to have high cohesion and high perceptions of readiness whereas units that are low in any one of these dimensions also tend to be low in the other dimensions.

One way to consider the inter-relationships among climate dimensions is to develop indices of social climate that encompass several different components. This approach is theoretically justified by research which suggests that separate ratings of the social climate load on a second-order factor described by whether individuals evaluate the work environment as personally beneficial or personally harmful (James & James, 1989).

In the current report, we examine the combined variables of cohesion, readiness and perceptions of NCO and officer leadership. All items are asked on five-point scales with three being a generally neutral response. To facilitate the presentation of results in the Tables, the combined climate measure is considered positive if the mean score was rated above "3".

Figure 25 shows that there was an increase of 5.6 percentage points between 2006 and 2007 in ratings of positive climate for male E1-E4 Soldiers in theater for 9 months. While small in absolute terms, this value is statistically significant.

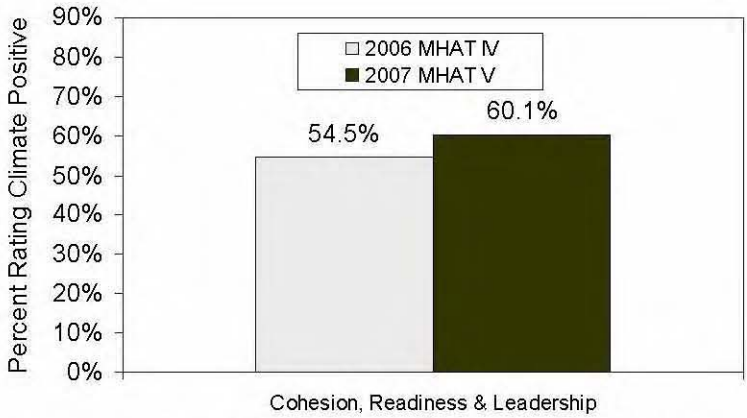

Figure 25: Adjusted Percents for Male E1-E4 BCT Soldiers in Theater 9 Months

Figure 26 illustrates the importance of social climate as a protective factor in terms of Soldiers responses to the risk factor of combat exposure. In the figure, notice that Soldiers who rate social climate positively have lower levels of acute stress than those who rate the social climate negatively across all levels of combat exposure. Perhaps just as importantly, however, Figure 26 also shows that there is less of an increase (flatter slope) between combat exposure and acute stress for those who rate the social climate positively. This latter effect is a typical buffering effect in the social science literature (Cohen & Wills, 1985).

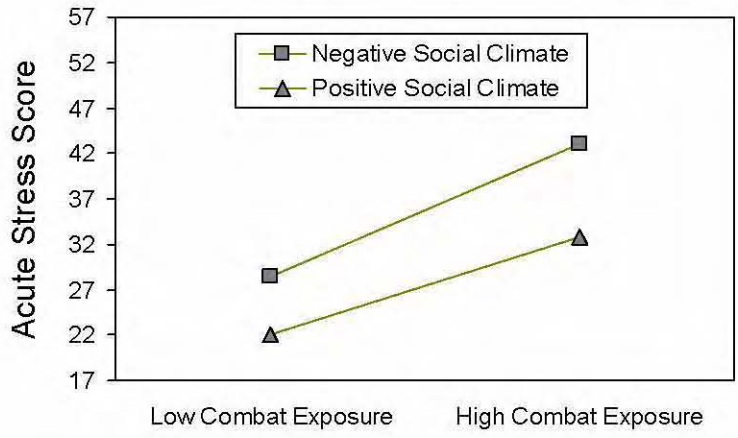

Figure 26: Predicted Values for Male, E1-E4 Soldiers in Theater 9 Months

7.2 Stigma

Another factor that is likely to serve as a protective factor is Soldiers' willingness to seek care, and a key impediment to seeking care is overcoming the stigma associated with mental health care. One of the challenges with providing mental health care is that stigma is strongest among individuals who screen positive for mental health problems (Hoge, et al, 2004). Therefore, when looking at changes in stigma across years, it is informative to examine those who screen positive for psychological problems.

Table 7 provides the adjusted percents for a male, E1-E4 Soldiers in theater 9 months who also screens positive for depression, anxiety or acute stress. Table 7 shows that rates of stigma for four of the six items are significantly lower in 2007 than in 2006.

Table 7: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months who Screen Positive for a Mental Health Problem.

Factors that affect your decision to receive mental health services	Percent Agree or Strongly Agree		
	MHAT IV 2006	MHAT V 2007	p-value
It would be too embarrassing.	36.6%	32.0%	0.04
It would harm my career.	33.9%	29.1%	0.02
Members of my unit might have less confidence in me.	51.1%	44.8%	0.00
My unit membership might treat me differently.	57.8%	52.1%	0.00
My leaders would blame me for the problem.	43.0%	38.5%	0.06
I would be seen as weak.	53.2%	49.8%	0.11

7.3 Barriers to Care

Perceived barriers to care also vary depending upon whether a Soldier screens positive for a mental health problem such that those who screen positive typically report higher barriers to care. In the analyses comparing barriers across years, a number of perceived barriers increased relative to 2006. Table 8 provides the results.

The increases almost certainly reflect the fact that 23.0% (504 of the 2195 Soldiers) indicated that they were at an outpost in 2007. Results show that Soldiers at outposts reported high barriers to care. For instance, while 17.9% of all Soldiers in Table 8 reported it was difficult to get to mental health specialists, the value increased to 29.3% for those who reported being on outposts. For those who did not report being on an outpost, only 12.9% reported difficulty getting to mental health specialists.

Table 8: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months who Screen Positive for a Mental Health Problem.

Factors that affect your decision to receive mental health services	Percent Agree or Strongly Agree		
	MHAT IV 2006	MHAT V 2007	p-value
Mental health services aren't available.	6.8%	9.6%	0.053
I don't know where to get help.	13.3%	13.4%	0.920
It is difficult to get an appointment.	13.6%	20.3%	0.002
There would be difficulty getting time off work for treatment.	41.0%	40.6%	0.845
It's too difficult to get to the location where the mental health specialist is.	8.7%	17.9%	0.000
My leaders discourage the use of mental health services.	14.6%	21.2%	0.006

7.4 Rest and Rehabilitation (R&R)

In the 2007 sample, 68.5% reported not taking any R&R while 9.2% reported taking in-theater R&R and 20.3% reported taking R&R outside of the theater (2.1% did not provide data). It is not statistically possible to compare rates to 2006 because even normalizing by months (e.g., status at 9 months) does not account for the fact that in 2006 the deployment was 12 months while in 2007 it is 15. Nonetheless, the rate of in-theater R&R appears to have increased relative to 2006 where it was about 5%.

On a related note, interviews with Soldiers and behavioral health providers indicated that the immediate period after mid-tour leave was a difficult time for Soldiers both in terms of morale and mental health. Unfortunately, the survey does not ask specifically about mid-tour leave. Future Soldier well-being surveys should consider asking specific questions about dates of R&R and mid-tour leave. Doing so would provide the ability to model the effects of R&R and mid-tour leave on Soldier well-being and morale.

7.5 Marital Functioning and Rear Detachment Support

In the behavioral science literature, social support from spouses and family members has often been found to be a protective factor in helping individuals cope with stress (Cohen & Wills, 1985). In addition, Soldiers' morale and well-being is affected by family issues back home.

The Soldier well-being survey assesses Soldiers' perceptions of the quality of the marital relationship and Soldiers' perceptions of satisfaction with family support with seven items listed in Table 9. The table shows that responses to these items have not significantly changed between 2006 and 2007.

Table 9: Adjusted Percents for Married, Male, E1-E4 Soldiers in Theater 9 Months.

	Percent Agree or Strongly Agree		
Marital and Family Support	MHAT IV 2006	MHAT V 2007	p-value
I have a good marriage.	70.3%	67.3%	0.23
My relationship with my spouse is very stable.	65.7%	63.0%	0.31
My relationship with my spouse makes me happy.	72.1%	69.1%	0.23
I really feel like a part of a team with my spouse.	66.3%	63.8%	0.33
During this deployment I am satisfied with how my spouse is managing the finances.	58.6%	54.1%	0.10
I have been satisfied with the rear detachment support of my family.	18.2%	20.7%	0.21
I have been satisfied with how the Family Readiness Group in my unit has helped my family.	20.1%	21.9%	0.41

7.6 Reporting Ethical Violations

One of the potential deterrents against committing unethical behaviors is the degree to which Soldiers believe unethical behaviors will be reported by unit members. Soldiers' willingness to

report unit members for unethical behaviors almost certainly runs counter to the strong sense of bonding that occurs among unit members during the deployment. Therefore, given that unit morale is significantly higher in 2007, it is not particularly surprising that Soldiers continue to be reluctant to report ethical violations of unit members. Table 10 provides responses from both 2006 and 2007 for male E1-E4 Soldiers in theater 9 months. Soldiers in 2007 reported being less willing to report a unit member for (a) injuring or killing an innocent non-combatant, and (b) stealing from a non-combatant.

Table 10: Adjusted Percents for Male, E1-E4, Soldiers in Theater 9 Months.

	Percent Agree or Strongly Agree		
Reporting Ethical Violations	MHAT IV 2006	MHAT V 2007	p-value
I would report a unit member for the mistreatment of a non-combatant.	37.1%	34.3%	0.11
I would report a unit member for injuring or killing an innocent non-combatant.	45.5%	41.2%	0.02
I would report a unit member for unneccessarily destroying private property.	32.8%	30.7%	0.22
I would report a unit member for stealing from a non-combatant.	38.9%	34.8%	0.02
I would report a unit member for violating the Rules of Engagement.	37.1%	35.9%	0.52
I would report a unit member for not following General Orders.	36.9%	35.5%	0.43

7.7 Training

The final section on protective factors focuses on Soldiers' reports of whether or not they have received training and whether this training is perceived to have been effective. As with other sections, responses in 2007 are compared to responses in 2006.

7.7.1 Training Adequacy for Deployment Stress and Suicide

In Table 11 compares across years Soldiers' responses to whether they agreed that they had received adequate training for deployment stressors and suicide. Notice that there were significant improvements in perceptions of training adequacy for three of the four items.

Table 11: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months.

Adequacy of Suicide and Stress Training	Percent Agree or Strongly Agree: MHAT IV 2006	Percent Agree or Strongly Agree: MHAT V 2007	p-value
I am confident in my ability to help Service Members get mental health assistance.	54.6%	56.5%	0.34
The training in managing the stress of deployment and/or combat was adequate.	40.0%	45.4%	0.00
I am confident in my ability to identify Service Members at risk for suicide.	50.9%	54.8%	0.04
The training for identifying Service Members at risk for suicide was sufficient.	47.6%	55.3%	0.00

7.7.2 *Battlemind Training and Training Adequacy*

One of the initiatives recommended in MHAT IV was to implement Battlemind training (Castro, 2004; 2005; Castro, Hoge & Cox, 2006). Battlemind is a training system with different modules for pre- and post-deployment. One of the unique aspects of the program is that the efficacy of different parts of the program has been validated with large-scale group randomized trials (Adler, Bliese, Hoge, McGurk, & Castro, in review).

In the 2007 sample, a number of deploying units implemented pre-deployment Battlemind training. In total, 1,438 Soldiers reported having attended pre-deployment Battlemind training while 688 stated that they did not attend the training and 69 did not respond to the question. Because of this variability, it was possible to examine Soldiers' perceptions of training adequacy with respect to whether or not they had received Battlemind training. The results (presented in Table 12) show that Soldiers who received Battlemind training were significantly more likely to agree that (a) the training in managing the stress of deployment was adequate, and (b) the training to identify Service Members at risk for suicide was sufficient.

Table 12: Battlemind Training (Raw Percents).

Adequacy of Suicide and Stress Training	Percent Agree or Strongly Agree: Did Not Have Battlemind Training	Percent Agree or Strongly Agree: Had Battlemind Training	p-value
I am confident in my ability to help Service Members get mental health assistance.	65.0%	66.5%	0.48
The training in managing the stress of deployment and/or combat was adequate.	30.6%	54.4%	0.00
I am confident in my ability to identify Service Members at risk for suicide.	58.4%	60.9%	0.27
The training for identifying Service Members at risk for suicide was sufficient.	49.6%	62.5%	0.00

7.7.3 Pre-Deployment Battlemind Training Efficacy

The 2007 sample also provides the opportunity to test whether attending pre-deployment Battlemind training is related to reports of mental health problems during the deployment. A simple statistical model examining the relationship between reports of mental health problems (depression, anxiety, or acute stress) and pre-deployment training revealed that attending pre-deployment Battlemind training was negatively related to reporting mental health problems. Specifically, 15.5% of Soldiers who attending pre-deployment Battlemind training reported mental health problems. The reported rate among those who did not attend was 23.0%.

More impressively, however, pre-deployment Battlemind training was still related to mental health problems when examined in a statistical model that controlled for rank, gender, months deployed, and levels of combat exposure. Figure 27 shows the adjusted percents.

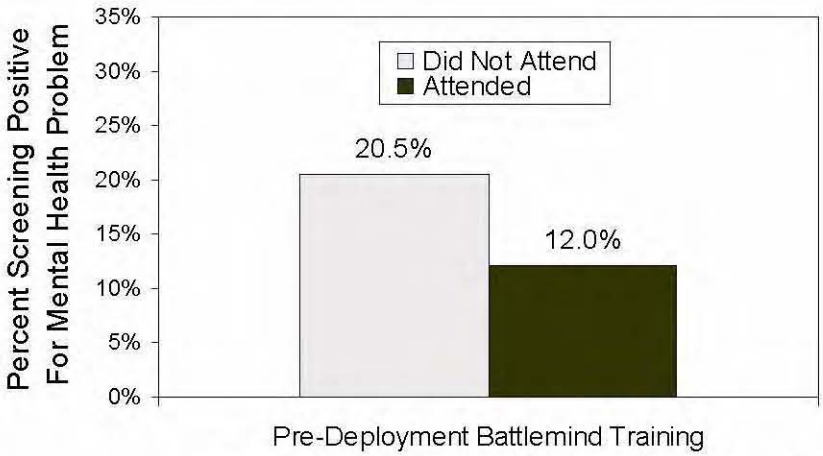

Figure 27: Adjusted Means for Male, E1-E4 BCT Soldiers in Theater 9 Months with Average Combat Exposure

While the results regarding Battlemind training are important, an important caveat to the findings is that certain units implemented pre-deployment Battlemind training in conjunction with a number of other best practice behavioral health interventions both pre, during and post deployment (see Warner, et al., 2007a; 2007b; 2007c). Many of these best practices are identified in the discussion section. Therefore, the differences listed in Figure 27 cannot be attributed solely to the pre-deployment Battlemind training.

7.7.4 Ethics Training

The final aspect of training evaluated in the Soldier well-being survey assessed ethics training both in terms of (a) whether the Soldier recalled having had the training, and (b) whether the training had been adequate. Adequacy was evaluated both by directly asking if it was adequate, and also by asking if the Soldier had encountered situations that were ethically difficult despite the training. Table 13 provides the results from 2007 to 2006. There was a significant improvement in Soldiers' rating of the adequacy of ethics training, but on the other three dimensions the results did not vary across years.

Table 13: Adjusted Percents for Male, E1-E4 Soldiers in Theater 9 Months.

Ethics Training	Percent Responding Yes: MHAT IV 2006	Percent Responding Yes: MHAT V 2007	p-value
I received training in the proper (ethical) treatment of non-combatants.	80.3%	81.1%	0.60
The training I received in the proper (ethical) treatment of non-combatants was adequate.	76.8%	79.9%	0.05
I encountered ethical situations in which I didn't know how to respond.	29.5%	27.9%	0.36
I received training that made it clear how I should behave towards non-combatants.	85.5%	84.4%	0.44

7.8 Summary of Protective Factors

The MHAT V sample had a number of factors that emerged as important protective factors. First, relative to 2006, the sample as a whole had significantly higher perceptions of leadership, cohesion and readiness as indexed by a unit climate variable. Second, the sample from 2007 had significantly lower stigma – Soldiers who were symptomatic for mental health problems were more willing to seek care in 2007 than in 2006. Finally, Soldiers reported being better trained for the stresses of combat and part of their preparation may be attributed to receiving Battlemind training. Other factors, such as marital support remained unchanged from 2006. Finally, in terms of ethical training, more Soldiers reported that ethical training was adequate, yet fewer Soldiers reported that they would report their unit member for the unethical behavior of (a) stealing from a non-combatant or (b) injuring or killing an innocent non-combatant.

8. SOLDIER FOCUS GROUPS

Twelve focus groups were conducted with 53 Soldiers throughout the Iraqi Theater of Operations (ITO) in October and November of 2007. Participants were informed that they could voluntary decide whether to respond to questions, and that their responses would be attributed to "a Soldier/NCO". The focus groups followed a semi-structured interview schedule asking questions about: (a) quality of life, (b) morale, (c) coping with deployment stress, (d) families, (e) the tour extension, (f) perceptions of the mission, (g) surge operations, (h) ethics training, (i) behavioral health training, and (j) recommendations for future training. Typically, focus group interviews lasted from 60-75 minutes. At the conclusion, Soldiers were thanked for their participation and notes from the focus group session were typed up by the interviewers.

8.1 Quality of Life

Generally, reports of quality of life problems were minimal but did vary depending on whether the Soldier was stationed at a FOB or command outpost (COPS). In general, Soldiers recognized that different living situations had different trade-offs. For instance, COPS may not have had all the amenities of a FOB, yet a number of Soldiers reported preferring the autonomy of the COP even though it might mean fewer amenities.

Soldiers provided mostly neutral to positive comments regarding food. Most noted that food was plentiful. In fact, one NCO noted that with the food choices and meals, 'that some of his Soldiers could not get out of the overweight program".

At a number of locations, Soldiers reported disappointment with MWR communications (i.e., internet access and phone). One Soldier said, "We used Spawar, and it is expensive, but there are only 10 booths. On outpost X we have Spawar but there is a delay. It makes phone conversations real interesting." A fairly common complaint was that, "available internet connections are too slow and not worth the time".

One MWR resource that was always cited favorably was the gym. Soldiers reported that they frequently used this MWR resource and that it was well-equipped. Of the few negative comments made about gyms, all of them had to do with crowding.

8.2 Morale

When focus group respondents were asked to rate their personal morale, many paused and said that it was a hard question because their morale was day to day, week to week, and month to month. Many Soldiers answered the morale question by talking about how it had gone up and down during the course of the deployment. For instance, morale was described by one Soldier, "It started high and has decreased exponentially, with ups and downs but by and large around month 11 it has nose-dived."

There was near consensus when asked about the times during their deployment when morale was at its lowest

1. When unit casualties were suffered
2. Upon return from R&R

For focus group interviewees who were in units extended by the tour, many of them noted that another low-point for their morale was when they would have originally been set to go home.

Soldiers and NCOs reported that poor communication and oversight were hard on morale. One Soldier said, "They [leaders] try to keep you informed, but there's a lot of false promises. The leadership needs to spend more time with Soldiers." In terms over oversight, one commented that "It's too much like garrison, someone gets hurt but then the SGM says, did they have their knee pads on?" Another Soldier said, "We were coming off of a 12-20 hr. mission and we get a digital speeding ticket!" Yet another remarked that "around here, you can get an article 15 if you boots aren't bloused." In some of the focus groups it was evident that the war environment was made worse by perceptions that leaders cared more about a FOB garrison mentality. "They're injecting too much stress into an already stressful situation, now they're yelling at people because they don't have their patch on. We live in a compact area, some rules get ridiculous. Some things bring morale down, it pisses Soldiers off."

Soldiers and NCOs were also asked what, if anything, their leaders could do to help Soldier morale during the deployment. As noted above, communication and information-flow were often mentioned as things that leaders could do better to help Soldiers. "Info flow here, it sucks. There's no way the leaders can keep your well-being up when 9 out of 10 missions I didn't know about until 6 hours before. It sucks from the brigade on down. FRAGOs get misinterpreted all the time and email is the worst thing that has happened to the military…they just forward the stuff (with no explanation and open to interpretation)." Other focus group members noted that they would like a better idea of the "big picture". One Soldier plaintively asked "why are we doing this? If I had a better understanding of the big picture then maybe...[that would help]."

Others mentioned that their leadership and their units would have benefited from more time to train during their reset before deploying again. "Last time we were really ready. But this time we were not, and it has shown…in our battalion we are combined arms and they did not know how to integrate them all…(they gravitated towards what they knew)…people really learned on the job. A lot of these things could have been addressed before we came given the time—might have resulted in less loss of life."

One thing noted by two focus groups was that leaders that were mentioned as being helpful in maintaining Soldier morale and well-being were good at protecting their unit from "hey you" taskings. For example, one Soldier commented that his SSG was "the best I've ever had and he's made my deployment good…He will just say 'no' we aren't doing stupid stuff today. The Platoon Leader is the same as the SSG, he keeps everybody off our back. The bullshit doesn't get handed down to us." Echoing this sentiment in another group, a SGT remarked, "Keep the SGM and COL out and leave us alone!"

8.3 Coping with Deployment/Job Stress

When asked what they did to maintain their morale and/or cope with the stress of the deployment, nearly all Soldiers said that they frequently spent time doing physical training (PT) in the gym or elsewhere. One NCO noted that, "I go to the gym every single day and it is the best two hours of my day." Many other ways to cope were mentioned including: movies, attending religious services, playing cards and games, computer gaming, music, sleep, playing practical jokes, organized sports such as team softball, basketball, or volleyball, holding "bitch sessions" and "just bull-shitting with each other, the guy always to your left and to your right for this whole thing."

Communication back home was often cited as a factor that helped; however, Soldiers also noted that it could also make things difficult. For instance, one Soldier commented that, "I talk

and email to my wife and kids and sometimes it makes me laugh and sometimes they make me cry."

When Soldiers were asked what they did to look out for each other, the most common response were efforts to get "buddies and Joes out of their room." Soldiers noted that Soldiers who were down tended to "just stay in their trailers". One NCO noted that she would, "just talk with them and encourage them to come out with you when going places….we all know each other and can see when someone is struggling." Another senior NCO summed it by saying, "you have to take your guys and get out…you can't sit in the barracks/trailers."

8.4 Families

In the focus groups, interviewees were also asked about how their families were doing. Some interviewees became reticent while those that did disclose how their families were doing noted that it was a hardship for their families. Typical responses were, "they are stressed, upset", "worried" "anxious", "frustrated", "struggling a little bit " "excited for me to come home", "doing as good as they can be", "big strain on extended family helping with the kids."

Among those that have deployed before, a few Soldiers spontaneously reported their time away compared to their time at home with their families. For example, one NCO noted that, "out of 5 years, only 19 months with my family." Another commented that, "I've been married for 3 years but I've only been with my wife 6 months. She is surviving…sits alone and picks up the checks."

Some Soldiers reported that their families avoided the news about Iraq. "My wife was seeing CNN all the time, when she stopped watching it, she started to feel better." Likewise, many Soldiers avoided sharing their more difficult experiences with their spouses and families for fear of adding to their worry. One respondent noted that, "I don't tell them things…I don't tell my Mom anything. I think it helps her sleep."

From the interviews, many Soldiers reported that frequent communication home was wonderful but that it was also a double-edged sword. Homefront stressors unavoidably add to their hardship. "You gotta call home and help (the Spouse) take care of some of that business to know that it is getting done." One Soldier noted that he really sympathized with Soldiers struggling with failing relationships, "It's sad finding out there, other Soldiers' wives cheating on them. That's the worst ever. Then you have the ones that get married right before their deployment and it doesn't last." For some interviewees, another stressor was the separation from small children, "what kills me is that my son was born in July and I wasn't there for the birth and he started crawling 2 months after R & R. That was hard." Another Soldier noted that, "you hear stories about Joes going on R & R and the kid doesn't remember them."

A common theme for married focus group participants was that a strong spouse was the key to maintaining the marriage in the face of the extension and multiple deployments, "being in the Army you've got to have a strong wife, if you don't you're going to suffer."

8.5 Tour Extensions

Among those in units affected by the tour extension while already deployed, there was near total consensus among focus group interviewees that the tour extensions had placed a burden on everyone: themselves, their colleagues, Soldiers, leaders and on their families.

Focus group participants reported that there was a lot of uncertainty and speculation about the tour extension and a general feeling that it could have been handled better in terms of communication. To many, it seemed that the real hardship came from poor communication of the extension. One focus group member noted that she learned of the extension on CNN. Some in the focus groups commented that they knew it was coming from watching the news before they left but felt it was very poorly handled and rumors should have been squelched with good leadership communication.

The effect on the families was often mentioned. One senior NCO simply stated that, "15 month deployments destroy marriages." One Soldier offered that, "15 month extensions…the families… thinking you are coming home, then they're hearing things that we are not hearing…We are tracking April and they are tracking February! I've said to my wife, don't get upset if it doesn't happen (coming home), that is my most common phrase I say to her. I tell her, we will see you when we see you'".

There was also total consensus among all focus groups affected by the tour extension that the Army must lock in an equal amount of dwell time. In four of the focus groups, this worry was brought up spontaneously by Soldiers. It was the feeling of the focus group interviewers that many Soldiers were very anxious and concerned that the Army would not give them their equal dwell time, and by not doing so, would break a psychological contract with them.

8.6 The Mission

When asked about their mission, most soldiers responded by talking about the specific mission (of their unit) and about the mission, in general.

With regard to their specific mission, many Soldiers noted hard-gained success, especially since the surge operations began. "Mission, is it successful? Our section has had 100% success. The people trust us now…the local nationals now come and tell us, 'hey there is an IED here, but before they didn't care." Another NCO noted that, "we are doing good. It is baby steps though." While talking about successes most alluded to the costs incurred to get there. "We've been real successful and we have turned it around here and it cost a lot to get there. We lost seven guys and we have 56 purple hearts in this company. It took a lot…When we leave and new guys show up, there is no guarantee that they can do what we did…that is the problem… not everyone works the same way—some units have COPs and different IED defeats. We don't want to come back in 15 months and have 56 more purple hearts."

The "big" mission was also mentioned frequently by focus group participants and it was a topic eliciting mixed responses. One Soldier offered, "I don't understand the mission. It went from you're fighting terrorists, to fighting petty thieves doing shit to get money." Another said, "I really don't think we should have been over here. We should have taken Saddam out and let the people duke it out. Now were paying Iraqis and others so much money." Even with concerns about the mission, many saw value in being here. One Soldier voiced, "We remove this thug whose idol is Hitler and Stalin…the way that I'm seeing it, it's going to get better." Perhaps summing up the ambivalence best, one Soldier noted, "I don't see a point in Iraq. I never saw the "why" for why we are here, but now that we are here, I'm glad we are and we are helping people." Similarly, another Soldier reported, "The town in our AO loves us; kids come up and schools are open. Nobody used to leave their houses. That is the story you don't hear back home."

When asked whether the Iraqi people were better off for us having been here, Soldiers felt that they had personally been providing an opportunity for Iraqis. However, there was a great deal of skepticism that the Iraqis would seize the opportunities provided for them. An NCO caustically noted that, "they want us for services, water, sewage, propane, food, bring me this and bring me that, that makes them happy. The violence is part of their culture. They have been doing it that way for 4-5 thousand years." Similarly, another NCO commented that, "we give advice, tell them how to use our resources but until they want to change, they are not going to change. I don't know how to make them at all. They are at the watering trough but choose not to drink. The Iraqis? I don't think were doing anything at all, they're not changing. They're going to resort to their corruption."

8.7 Surge Operations

There was 100% consensus in all the focus groups conducted that the surge operations were making things better and more secure. "The surge hammered us at first but over the past couple of months it seems to be working. Things are calmer now. The surge is working. The outposts seem to be working…I used to be scared to go out to 3 or 4 outposts because of the route but now we have the manpower." One NCO noted that "before the surge, we had no time to interact and talk to people in the town. We had 8 hours to cover Point A to Point B. When the surge came, each company now has a smaller sector…it is working." Another junior Soldier commented that, "the surge has definitely changed things for the better. The area here was Al Qaeda central, very bad hot spot in Baghdad. With the surge it has gotten a lot better…a good effect on the neighborhood that borders our AO."

In noting the success of the surge, many wondered why it couldn't have been implemented earlier; one Soldier said, "If we were a football team we are just now having a winning record." Another said, "I understand the surge and I believe the surge. I went into Fallujah three times, and I could never understand why we kept having to retake things. It seems like the IEDs have gotten fewer."

8.8 Ethics and Future Training

Soldier focus group members were asked about ethical situations that they encountered during their tour. A few Soldiers emphasized concern about their ROEs and potential investigations, as said by one Soldier, "it (15-6 investigations) adds that extra second-do I really want to do this fucking paperwork. I shot a guy in December and I came back from my injury two or three months later and they were still doing paperwork." Other Soldiers noted that concerns over potential investigations play into how they respond, 'you have a split second to make that decision-and now guys take that time because they're worried about going to jail. A guy I know shot a VBIED and some guys say they wouldn't have done it because they were worried about being investigated." Despite these challenging situations Soldiers voiced confidence in the Soldier's ability to make right decisions. One Soldier said, "Our group knows what to do" another said, "guys know what's right and wrong. Maybe there are a few problem Soldiers but most aren't. The ones that make CNN are the bad apples."

Soldiers recognize a discrepancy between ROEs and the practical application that may save their life or the life of their buddies, one Soldier voiced his concerns, "there is no amount of ethics training that tells me that this guy isn't going to blow me up. Ethics and ROEs need to match up, we have a nerf round from our 203 we are supposed to shoot, but after stopping to change out and then take a warning shot? Are you kidding, with a VBIED traveling 40!"

When Soldiers were asked about Army ethical training and its effectiveness, many were skeptical about its effectiveness. One Soldier said, "They (the Soldiers) are taught right and wrong. A 30 minute class won't change my opinion." Another said, "you can't really train unless you've experienced it." However, some suggested a program for experienced based training. For instance, one soldier said, "Maybe a focus group like 5-6 guys say 30-40 minutes in a room, pull them out mid deployment and send them back to Kuwait to train those guys coming in."

Other Soldiers voiced that language rather than ethics should be taught, one soldier spoke of his experience, "The language classes don't work. We need a basic knowledge, what they gave us doesn't work. To say stop, 'Kief', it means slow down not stop. A guy was walking up to us all crazy, but we were yelling kief, so I pointed my gun at him and looked to my guys. I yelled, kief, but later found out that it means to slow down, not stop. I almost shot this guy at a check point because I was wrong. They need to do something about the language thing." He continued, "I learned how to count, and say minute. That helped me more than anything else in the world."

8.9 Behavioral Health Training

Focus group members were asked if they had received any behavioral health training prior to leaving on the deployment and during the deployment. Most Soldiers stated that they had taken part in some type of pre-deployment mental health training but many did not remember the specifics. One NCO noted that for first-time deployers, "Can't necessarily prepare them for a first deployment. You can try and leadership can try by doing all the things possible, but the biggest thing is the redeployment phase." Another NCO noted that, "everyone is going to have a different response to this…the stress (of combat) is nothing compared to the bullshit and boredom…guys flip out."

All focus group members noted that they had received a suicide prevention briefing sometime during the deployment or before the deployment. There was no mention of any behavioral health training during the deployment other than suicide prevention briefings and the mandated mTBI and PTSD briefs. As noted above, morale was reported to be quite low after Soldiers came back from R & R. A few Soldiers suggested that this would be a good time to counsel or check in with a Soldier or provide a mental health brief to Soldiers.

For post-deployment and future behavioral health training, there was a strong emphasis placed on help for families. For instance, one married NCO stated that, "marriage counseling should be mandatory…I've had 12 divorces in my company. Give help to the families back home…make it easier for them to get help…FRGs vary, mine sucks and probably is more of a problem than a help. There is a lot of gossip."

With regards to Soldier mental health training for post-deployment, a few NCOs and Soldiers noted that they would like to hear from past veterans about their experiences coming home and a few of these focus group members suggested that a good time for this might be in Kuwait while units were waiting for their flight home. Others noted that at the reintegration phase, many Soldiers don't have to time to talk to people, "People offer help, but Sergeants tell us to get on the bus…or they worry about getting in a line in front of buddies." A few Soldiers suggested that after block leave was taken would be a good time to touch base with Soldiers as well.

9. BEHAVIORAL HEALTH CARE SYSTEM ASSESSMENT

This section of the report discusses: (1) current behavioral health staffing and distribution in OIF 06-08, (2) behavioral health survey methodology and results, and (3) behavioral health provider interview results.

9.1 Behavioral Health Staffing and Distribution

Within the theater of operations, personnel numbers for both behavioral health providers and military personnel are constantly changing as a function of deployment and re-deployment, operational requirements, and Soldier needs. For these reasons, it is important to recognize that the data presented below represent a snapshot of staffing and distribution as of OCT 2007.

Nonetheless, the overall ratio of Behavioral Healthcare (BH) personnel to military personnel in the OIF (06-08) theater in OCT 2007 was 1: 734. This ratio is higher than any time since OIF 1, but within the range of ratios for previous OIF deployments. Specifically, the staffing ratio of BH personnel to Soldiers/Marines was 1:836 in OIF I, 1:387 in OIF II, 1:448 in OIF 04-06, and 1:688 in OIF 05-07.

Table 14 contains the distribution and ratio of BH personnel per operational region for OIF 06-08 compared to last year, OIF 05-07. It is important to note that operational regions were re-organized during OIF 06-08, making direct comparisons by region difficult. Additionally, BH assets of a given service provide care equally to all US military personnel regardless of service component. This is particularly true (b)(2) where Marines and Soldiers are supported by multi-service BH staff. Although the ratio for Marine BH personnel to Marines is 1: 1527, many of these Marines are being supported by Army BH personnel in addition to Navy BH personnel. Therefore, in AOs (b)(2) where there is multi-service BH support, staffing ratios are difficult to interpret. Also important to note is the role of the Air Force BH personnel in OIF 06-08 which is much larger than in previous OIF rotations (see Table 14 below).

Table 14. The Distribution of BH Personnel to Military Personnel by Operational Region for OIF 06-08 and OIF 05-07.

		MHAT V OIF 06-08			**MHAT IV** OIF 05-07		
	MND	PERSONNEL	BH	RATIO	PERSONNEL	BH	RATIO
IRAQ	(b)(2)						
	TOTAL IN THEATER	172574	235	734	127000	190	668
(b)(2)							

In terms of absolute numbers, the 235 BH personnel serving during OIF 06-08 is the highest number since OIF 1. However, because surge operations during OIF 06-08 increased the

overall total force size, the ratio of providers to Service Members of 1: 734 is high by historic standards.

Table 15 provides the distribution of BH personnel by occupational specialty across OIF rotations for which data were collected. It is important to note that the occupational specialties listed below represent only a snapshot in time; BH personnel and occupational specialty fills on CSC teams and in organic BH teams are constantly changing. For instance, although we were only able to identify one OT Tech when we compiled the data call on BH occupational specialties across ITO, we subsequently learned that there were a few more OT Techs operating on CSC teams.

Occupational specialties have fluctuated across past OIF rotations; however, there has been an increase in the contributions of Navy and Air Force BH personnel over the past two OIF rotations (OIF 05-07, OIF 06-08). For instance, the USN has increased their BH personnel staff by 5 personnel from OIF 05-07, while the USAF has increased BH personnel staff by 30 from OIF 05-07. Behavioral Health personnel from sister Services have added significant resources to providing in-theater behavioral healthcare.

Table 15. The distribution of MH specialties across OIF rotation and between Corps.

	ARMY			
SPECIALTY	OIF 06-08	OIF 05-07	OIF 04-06	OIF II
Psychiatrist	21	18	17	15
Occ. Therapist	4	11	9	8
Behavioral Sciences	2	-	-	-
Psych Nurse	13	12	21	12
Soc Worker	25	23	30	27
Psychologist	21	14	21	17
MH Specialist	96	84	120	123
OT Tech/Medic	1	12	12	13
TOTAL	183	174	230	215
	NAVY			
Psychiatrist	6	4	-	-
Psychologist	3	2	-	-
Psych Tech	10	7	-	-
TOTAL	19	13	-	-
	AIR FORCE			
Psychiatrist	7	-	-	-
Psychologist	4	1	-	-
Soc Worker	4	2	-	-
Psych Nurse	3	-	-	-
MH Tech	15	-	-	-
TOTAL	33	3	-	-
MNF Total	235	190	-	-

9.2 Behavioral Health Survey

A census sampling design was employed for the BH survey. That is, BH personnel in the OIF theater of operations were given an equal opportunity to complete and return surveys. In all, 131 BH surveys were returned. This year's sample size was consistent with previous MHAT BH survey sample sizes.

The MHAT V BH survey items were identical to MHAT IV BH survey items. As with last year's assessment, survey items focused on demographics, standards of practice, coordination of services, BH services provided, skills and training in relation to BH services, perceived stigma and barriers to mental health care, methods to address Soldier BH needs, and personal well-being. Additionally, each survey also had a qualitative section for all respondents to write in the equipment / resources / supplies that would have improved their ability to complete their mission. Chi-Square tests were calculated to determine whether there were percentage/ frequency differences between MHAT IV and MHAT V. Differences were deemed significant using the standard $p. < .05$ cut-off.

9.2.1 Behavioral Health Survey Demographics

Demographics for BH personnel responding to the survey are shown in the Table 16.

Table 16. Demographic list of surveyed BH Personnel.

	Behavioral Health Survey Demographics
Sample Size	n = 131
Age (Mode)	30-39 years old
Gender (Mode)	73% Male
Rank (Mode)	41% Officer
Branch of Service (Mode)	93% Army
Component (Mode)	58% Active Duty
Average Months Deployed since 9/11	13.51
Average Number of Service Members supported by team	5,396
Average Hours spent per Week Outside FOB	10.09
Average Days per Month Living Outside FOB	1.99
Average Number of Locations your BH/COSC Team Supports	9

Significant percentage differences between MHAT IV and MHAT V items are discussed below. Non-significant percentage and frequency differences are provided in Appendix D. This information is provided in Appendix D so that base rate frequencies and percentages can be compared for MHAT IV and MHAT V.

9.2.2 Behavioral Health Survey Results

Results from the behavioral health survey and the behavioral health provider interviews are summarized below. Table 17 provides significant differences between the MHAT IV and MHAT V Behavioral Health surveys. Chi-square analyses indicated that there were significant differences between MHAT IV and MHAT V behavioral health survey respondents on a number of items.

Table 17. Significant differences between MHAT IV and MHAT V of Behavioral Health Surveyed respondants (n = 131).

	Percent Agree or Strongly Agree		
	MHAT IV	MHAT V	p-value
STANDARD OF CLINICAL CARE (Percent Agree or Strongly Agree)			
The standareds for clinical documentation are clear.	56%	42%	0.04
RESOURCES FROM COMMAND (Percent Agree or Strongly Agree)			
My higher HQ (command) provides us with the resources required to conduct our mission.	53%	34%	0.003
WELL-BEING (Percent Agree or Strongly Agree)			
My ability to do my job is impaired by the stressors of depolyment/combat.	4%	19%	0.0001
My mental well being has been adversly affected by the events I have witnessed on this deployment.	14%	26%	0.02
PSYCH MEDS AVAILABILITY (Percent Agree/ Yes)			
Level II Forward Support Medical Company.	88%	69%	0.04
Level III Combat Support Hospital.	97%	81%	0.02
COMBAT & OPERATIONAL STRESS COURSE DOCTRINE (Percent Yes)			
Attended COSC course training from AMEDD C&S.	5%	48%	0.0001
DOING THEIR JOB (Percent Agree or Strongly Agree)			
Using validated survey instruments.	13%	29%	0.01
Conduct command consultation.	54%	72%	0.003
There are sufficient BH assets in theatre to cover the mission across the AO.	46%	25%	0.001

9.2.3 Resources

BH survey respondents reported a significant decrease in resource availability in the form of personnel and equipment. Notably, significantly fewer respondents reported that there were sufficient behavioral health assets to cover the mission across the area of operations (AO), 25% in MHAT V versus 46% in MHAT IV. Similarly, a significantly lower percentage of respondents reported that their higher headquarters provided enough resources to conduct the mission, 53% in MHAT IV and 34% in MHAT V. We further examined whether there were rank differences or service component differences on these perceptions of resource shortages and found that neither rank nor service component differed significantly in their assessment of behavioral health resource shortages.

The majority of BH respondents indicated that there was availability of psychiatric medications at all levels of care, however, significantly fewer reported that psychiatric medications available at Level II and Level III care compared to percentages reported during MHAT IV.

BH personnel were also asked to provide written comments on equipment or supplies that they were lacking that would improve their ability to conduct their mission. The most commonly requested resources were: (1) more personnel, (2) more and/or better network and computer connectivity, particularly referencing medical communications for combat casualty care (MC4) computers, (3) vehicles, (4) office equipment, and (5) professional mental health books, references, and diagnostics.

9.2.4 Standards of Care / Combat and Operational Stress Doctrine

There was also a significant decrease in perceptions of the clarity of the standards for clinical documentation. This finding was supported by written comments on the survey as well as through interviews. Interestingly, while reporting a decrease in standards of clinical documentation, there were substantially more respondents who reported they had attended the AMEDD Combat and Operational Stress Course (COSC). The AMEDD Combat and Operational Stress Course, which began in the Spring of 2007 is designed to train all BH personnel with the up-to-date standards and doctrine. Through the BH interviews, all personnel deployed after the COSC was established had attended the course. It will be important in future BH surveys to examine the percentages reporting they attended COSC, particularly among Reservists and National Guard BH personnel, and also to assess standards of care and common doctrine.

9.2.5 Well-Being

As with primary care personnel, there has been a lot of concern about BH personnel burnout and decreased well-being. Some of the data from the BH survey support reason for concern as do recent psychiatric evacuations of BH personnel. Regarding BH survey respondents' well-being, the data showed a twelve percent increase in BH personnel reporting that their well-being had been adversely affected by the events they had witnessed during the deployment, 14% on the MHAT IV survey and 26% on the MHAT V survey. Moreover, there was a 17% significant increase in the percentage of respondents who agreed that their ability to do their job had been impaired by the stressors of the combat deployment, only 4% on the MHAT IV survey and 21% on the MHAT V survey.

When the relationship between the number of months deployed and BH personnel well-being was examined across well-being items, a significant curvilinear trend was found between months deployed and BH personnel agreeing that their ability to do their job had been impaired by listening to Soldiers combat experiences (see Figure 28 below). Specifically, after nine months deployed, a significantly higher percentage of respondents agreed that their ability to do their job had been impaired. Note that this upward curvilinear trend continues until 12 months. There were too few respondents beyond month 12 to make meaningful inferences about the whether the trend might have continued upward. Clearly, however, the length of the deployment was related to how BH personnel rated their ability to do their job.

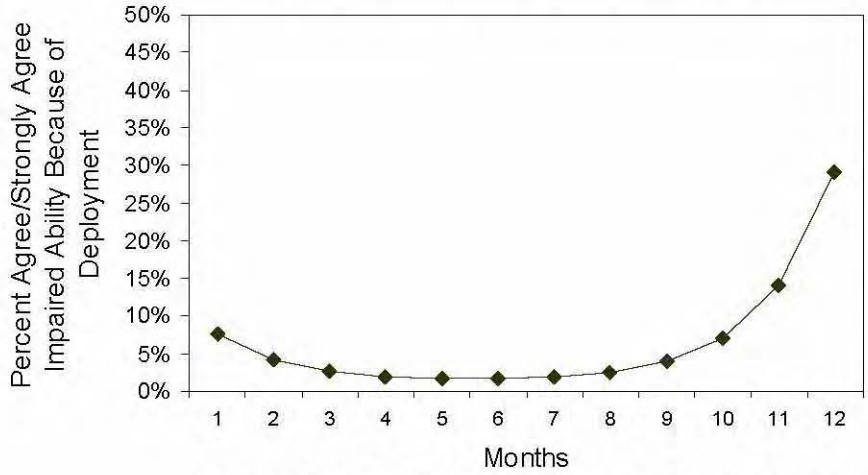

Figure 28: Months Deployed and Perceptions of Impaired Ability to do BH mission

In order to gain more fidelity in the assessment of provider well-being and functioning, future BH (and Primary Care) surveys should include items such as the number of deployments, duty and time at remote outposts, whether or not personnel are organic to their unit or PROFIS (Professional Officer Filler Information System) replacements, and the degree to which BH personnel are operating as one or two-person teams in supporting FOBs and multiple outposts.

9.2.6 Behavioral Health Functional Work

BH survey respondents reported significant increases in the frequency with which they conduct the primary functions of behavioral healthcare personnel. For instance, significant increases were observed in the number of respondents reporting that they routinely talk informally with Soldiers, conducted Command consultations, and made use of validated clinical survey instruments in their BH/COSC work.

In sum, the picture emerging from these survey data is of deployed BH personnel active in conducting their mission while being stretched thin on resources (equipment and personnel) and reporting decrements in mental well-being and higher perceptions of the deployment having an adverse impact on their ability to do their BH job.

BH respondents also wrote in comments throughout the survey. The most frequent comments concerned the following needs: perceived shortages in BH personnel, better training prior to the deployment, better documentation standards for echelons of care and in "how to work from the 8-51", more computer connectivity, a Combat and Operational Stress Workload Activity Reporting System (COS-WARS) version update with clearer guidance on how to use it, a more active garrison Family Life and/or Family Readiness Group (FRG) to aid Spouses and Families (it is important to note that BH interviews revealed that homefront stress is the most common reason Soldiers seek out care), and better delineation in roles and responsibilities of Division Mental Health personnel and Combat Stress Control personnel.

9.3 Behavioral Health Provider Interview Results

Interviews were conducted with twelve BH providers. In general, the themes that emerged from interviews underscore the BH survey findings and also add depth and context to the survey results. The key content covered was clustered into five sections: Human Resources, Behavioral Health Tools, Training, Common Soldier Problems and General Concerns.

9.3.1 Human Resources: The Behavioral Health Team

BH providers were largely pleased with the multiple responsibilities taken on by their enlisted Soldiers, one saying, he/she does, "everything...Mental Health specialists take on multiple responsibilities, including patient intake, maintenance, office administration, conducting mental health training and participation in therapy. However, those who were not trained or licensed were always supervised by the BH provider when conducting training or participating in therapy. Most BH providers felt that the utilization of the enlisted could be enhanced; as stated by one provider, "the enlisted need to get their counseling skills, they need more education, and we are not using these guys enough." Despite some concerns with mental health specialist training, most of the BH providers interviewed were satisfied with their mental health staff.

Some providers expressed that there was a poor distribution of behavioral health assets across theater. One provider stated, we are in "a state of flux," constantly changing to meet the

demands of other units. Another stated, "we have one psychologist, and two 68Xs per 4000 Soldiers spread out across one FOB and five outposts…Resources are not adequate." Some providers claimed that this effect is the result of low provider strength, "after returning home on leave we fell to 50% provider strength, and then we return and we do PDHA and PDHRA with a 12% problem rate and I have no help to provide care because I don't have personnel to provide help nor start prevention missions prior to leaving on a deployment. Keep the billets filled!" One potential solution was voiced to alter the incentive for providers back in garrison go get their licenses. One provider said, "licensing of providers is an issue with no incentive to get them here. Now, MNFI and MNCI won't let anyone deploy without licenses. People play the system and at the same time we have to set up a system that encourages providers to get their licenses so they can deploy."

Some providers have claimed that complications may be due to poor relationship / communication with the units that the CSC supports. One provider noted that his lack of good rapport was due to location, "for CSC's its hard because the CSC unit is not organic to the units it supports. It takes time to establish contacts with leaders." One answer for this problem was stated, "the ideal solution is the 68X in each BN and the BHO at BDE level so there is a more robust team in each BDE in plug-n-play Army. We need to be able to project resources."

Conversely, some behavioral health interviewees felt that their successes were due to better relationship/communication with their command. One provider stated, "I was on a patrol base while the CG was getting wined and dined. 1SG said it was so miserable there that he can't enforce standards, poor support, no generator they just fired it up for the CG. He said, they don't drink cold water, they're in full IBA all the time, and their drinking water is 130 degrees. Plus, they were rotating out for 21 days with no rest, and when at the FOB they're on guard duty. So what happened was the next day when I filed the trip report, the CG saw it and made immediate changes." Whether BH provider interviewees noted success or failures with command and unit relationships, there was total consensus on its importance in accomplishing the BH mission.

9.3.2 Training

All enlisted military occupational specialties (MOSs) working with the BH providers interviewed appear to be getting valuable experience-based training under the supervision of their BH provider. Most enlisted BH personnel are trained in Advanced Individual Training (AIT), however few have actual certifications for counseling or therapy. Nonetheless a lot of confidence seems to be placed in the enlisted support; one BH provider stated, "One of my passions is that, we're not using these guys enough," we need better educational programs and certification for these guys. A better use of our money would be to train them back home." Additionally, all BH providers stated that there is a continual on-the-job training for enlisted BH personnel, under the supervision of the BH provider.

Several BH providers questioned the adequacy of the newly mandated Combat and Operational Stress Course (COSC) run by the Army Medical Department. There was not a clear consensus among those that attended that the training course was effective. Some felt it was on target while others felt that it was too heavily geared towards CSC, lacking relevancy for Division mental health staff. One provider voiced that "it was a giant waste of time during which there was little connection between the audience and what we wanted to take from it." Another provider stated, "as a team leader it was effective but I did not personally get a lot out of it." When asked what could have been done better, the respondent replied, "it was too focused toward combat stress and not an equal balance with division mental health." Interviewees did have suggestions for improving the course. Break out sessions were mentioned by some

providers to accommodate different levels of training. It was also stated by one provider that, his "x-rays felt it was too provider driven." Nonetheless, other x-rays interviewed stated "it was good and added to AIT training." Additionally, providers also found value in the networking one could get by attending the COSC course, "there are incredible networking opportunities to meet all other providers, and I would give it (a quality rating) of 4/5."

9.3.3 Behavioral Health Tools

The efficacy of three tools used to assist providers in theater were addressed. The tools were the Unit needs Assessment (UNA), Suicide prevention program and Battlemind Psychological Debriefing. Interestingly, stigma and barriers to Soldiers seeking mental health care were commonly mentioned in conjunction with interviewees' thoughts about existing training programs.

The value of the UNA appears controversial among BH providers, however some controversy may be driven by experience with UNA itself. One provider stated, "yes they use the UNA but don't like it. It's a daunting task and it's cumbersome and even if you get help from medics to get the data for 200 surveys, it seems like a big task." While another BH provider stated, "it's a great tool because of the standardized data." However, the tool appears to be in need of improvement, "the biggest issue with it is the slide show and data sets aren't in the same order and attention to detail is needed. Despite the complications most BH providers interviewed stated that they are using the UNA.

Providers utilizing the suicide prevention program have leaned heavily on the assistance of their chaplains, even to the point of saying, "our chaplains are in charge," and "we refer to the chaplains." In another unit, the chaplains' role is more clearly defined, one provider saying, "Chaplains cover the brief and as far as treatment, they are referred to me." Nonetheless, most providers interviewed emphasize that the chaplains play a big role in suicide prevention. More clearly defined provider plans were expressed, "We are trying to use a three-line defense system where the first is a battle buddy the second is a platoon leader assisting the battle buddies and third is the chaplain or myself overseeing the platoon leaders." Another provider described his training program as "hands on," saying, "We have battle drills that we run and get all involved."

Many of the interviewees noted the issue of stigma and barriers to care when discussing training. "There are levels of misunderstanding about how to create an environment to reduce stigma and help those get help" said one provider. "We had a CSM that has taken things into his own hands in that he explained that he goes around and helps Soldiers get things off their chest by pointing out, hey, didn't you know someone who committed suicide and didn't that make you mad!" again "There are levels of misunderstanding of how to reduce stigma and barriers." Other BH providers said, "we need something to help with bad leadership." Nonetheless, some BH providers have stated that there are some, "leaders that are very up front about BH and value it and encourage it. Its top down and that expectation is very helpful." However, training should be augmented, one provider stating that, "prevention training needs to be deployment cycle specific. It needs to be resiliency based just like Battlemind, less medical, more military, and more positive."

Follow-up questions were asked about the use of Battlemind Psychological Debriefings. Most had heard of it but were unfamiliar with the material. Of those that were experienced in using Battlemind debriefing, they described it as "very" and "extremely" relevant. "It is a valuable tool because it focuses on skills taught. It is making a difference and is a powerful tool. Both the

event-driven and the time-driven versions were seen as very effective. We could mandate at 6-month time point-this is a critical time point…this helps decrease barriers and stigma…as a whole I like it the way it is. It normalizes the experiences. It also helps Soldiers know who the MH provider is and how to contact them." One criticism about Battlemind debriefing mentioned was that it "doesn't provide the same fact-based start…it has been difficult to get people to talk."

However, all BH interviewees experienced with Battlemind debriefing recommended it. Moreover, leadership and Soldiers have responded well to it. When asked what kind of feedback do you receive from Soldiers it was said, "positive, it shows the Command cares and is interested in getting them help. Another provider also noted that, "Soldiers are more willing to come in to follow-up and are more open. This is better than diffusing in encouraging follow-up. Many are happy they did and said that it didn't waste their time." When asked what kind of feedback they receive from leaders, interviewees noted that they responded positively toward the training, as stated by one BH provider, "BCT, CDR, told everyone to see MH at some point." "They see an improvement in Soldiers and I get a feeling they are moving towards understanding the value instead of it being a 'check the box' type of training.

Although the previous programs discussed play a large role in assisting soldiers with many problems, not all problems can be adequately treated through these programs. Thus, providers were asked many of the common problems facing the soldiers they serve.

9.3.4 Common Soldiers Problems

When BH interviewees were asked what brought Soldiers in to see them most often, the most common problem cited was "homefront problems" such as interpersonal relationship/marital problems and financial difficulties. A variety of other problems were mentioned as well, including insomnia, PTSD, depression, and interpersonal relationship problems within the unit. One provider indicated that these themes appear at certain times of the deployment cycle, "early on family problems were high, in April, May when we got the orders for extension, however, now (October 2007) getting along with each other, has been higher than family problems." Among the suspected reasons for these complications was the pace of the mission. In one area where there was little hostile activity the provider commented that a common phrase was, they were "just doing time." A more specific reason for family problems was given by one provider, "15 month deployments are designed to destroy marriages. Marriages running on 3 wheels are doomed." The last reason was leadership, one provider stated that, "the junior enlisted go through a lot here, and it doesn't seem helpful for them to be beat up by their NCOs. There needs to be good leadership training for E5's. Enlisted are promoted so fast to E5 these days that they don't get training on how to be good NCOs." One provider stated, "our medication is compensation for poor leadership."

9.3.5 General Concerns

Additional Soldier concerns mostly addressed supplies and application of suggestions made from previous MHAT reports. The equipment and supply issue was often brought up by BH interviewees. Paralleling the survey findings, BH interviews largely mentioned the necessity of having computers, and testing equipment. One said, "the MC4 issue is huge, our clinic closes at 1600 and I am here until 2100 typing notes." Another BH provider stated, "More psychological testing tools. Nine of 10 times we send them (Soldiers) out for further evaluation and they don't come back. It is important to have tests for malingering."

On an administrative level, one provider was concerned about the actual enforcement of these suggestions. "I read through the recommendations from the past (MHAT) reports, but we are

poor at implementing these! Things are never acted on. Why aren't UNAs done everywhere? Why is our division one of the only divisions using Battlemind? It is mandated! Suicide is now a big issue. All MHATs found that there isn't a clear suicide prevention program. Take action! Command Accountability!"

10. PRIMARY CARE SURVEY

10.1 Primary Care Survey Methodology

A census sampling design was employed for Primary Care (PC) survey. That is, surveys were sent to Primary Care personnel throughout the OIF theater of operations and provider was given an equal opportunity to complete and return surveys. One-hundred thirty-five (n= 135) PC surveys were returned of the 200 distributed. This year's sample size was lower than previous MHAT response rates: MHAT IV (n = 260), MHAT III (n = 172) and MHAT II (n = 242).

MHAT V PC survey items were identical to MHAT IV PC survey items. As with last year's assessment, survey items focused on demographics, standards of practice, coordination of services for BH cases skills, training and practice in relation to BH services, perceived stigma and barriers to mental health care, availability of psychiatric medications, and personal well-being. Additionally, each survey also had a qualitative section for all respondents to write in the equipment / resources / supplies that would have improved their ability to complete their mission.

As with the BH surveys, chi-square tests of independence were calculated to see whether the percentages differed significantly between MHAT IV and MHAT V. Differences were deemed significant using the standard p. < .05 cut-off.

10.2 Primary Care Survey Demographics

Demographics from the Primary Care survey are listed in Table 18.

Table 18. Demographic list of surveyed Primary Care Personnel.

	Primary Care Survey Demographics
Sample Size	n = 135
Age (Mode)	30-39 years old
Gender (Mode)	72% Male
Rank (Mode)	66% Officer
Branch of Service (Mode)	94% Army
Component (Mode)	67% Active Duty
Average Months Deployed since 9/11	14.09
Average Number of Service Members supported by team	4,643
Average Hours spent per Week Outside FOB	6.12
Average Days per Month Living Outside FOB	2.11

Significant percentage differences between MHAT IV (OIF 05-07, 2006) and MHAT V (OIF 06-08, 2007) PC items are displayed below in Table 19. Non-significant percentage differences are provided in Appendix D so that base rate percentages can be compared for MHAT IV and MHAT V.

Table 19. Significant Differences between MHAT IV and MHAT V of Primary Care Survey Respondents (n=135).

	MHAT IV	MHAT V	p-value
COMBAT AND OPERATIONAL STRESS CONSULTING (Percent Agree or Strongly Agree)			
During this deployment how frequently did you:			
Help Service members with a mental health problem weekly.	25%	40%	0.005
Refer Service Members with problems to mental health personnel weekly?	15%	26%	0.01
PSYCH MEDS (frequency of event)			
During this deployment how frequently do you prescribe meds for depression (monthly).	45%	64%	0.01
During this deployment how frequently do you prescribe meds for sleep problems (weekly).	30%	52%	0.01
During this deployment how frequently do you prescribe meds for anxiety (monthly).	42%	60%	0.01

10.3 Primary Care Role in Mental Health

Primary Care personnel reported few significant differences from last year's survey. However, one area where there were significant differences revolved around primary care personnel playing a more active role in mental health. A significantly higher percentage of primary care personnel reported that they either helped Soldiers directly with a mental health problem or had referred a Service Member to mental health within the past week. Similarly, a significantly higher percentage of primary care providers reported that they wrote prescriptions for depression, anxiety, and sleep problems compared with providers who completed the survey last year, MHAT IV.

The increase in primary care personnel's involvement with Service Member's mental health likely stems from two sources. First, multiple deployments and deployment length have likely contributed to more Service Members seeking help with depression, anxiety and sleep problems. Presumably, the increase in prescriptions and treatment of depression, anxiety, and sleep problems by primary care providers is attributable to the long deployment length, family separation, and the myriad chronic and acute stressors face by service members in the Iraqi theater of operations. Secondly, the AMEDD has recently developed the Respect.Mil program to aid primary care providers in their ability to identify mental health problems of their patients and help overcome stigma associated with seeking mental health treatment. Because of programs like Respect.Mil, it may be that providers are more familiar and comfortable with helping Soldiers directly or through referral to behavioral health.

10.4 Provider Well-Being and Burnout

There were no significant differences in primary care personnel well-being (as assessed through the survey) when compared to last year. In general, morale, motivation, mental well-being, and job impairment due deployment stress/experiences, and perceptions of burnout remained unchanged compared to last year.

While these survey data do not indicate decrements in the well-being and performance of primary care personnel, there has been a great deal of attention paid to provider burnout and compassion fatigue in recent months. Because of the concern for Primary Care (as well as Behavioral Health) personnel, we examined the relationship between PC personnel well-being and the number of months deployed to see if the length of deployments was related to declines in well-being. Analyses revealed that the number of months deployed was significantly related to both PC personnel morale and their perceptions of declines in mental well-being attributable to events witnessed during the deployment. The forms of the relationship that the number of months deployed shared with morale and declines in mental well-being are graphed below in Figures 29 and 30.

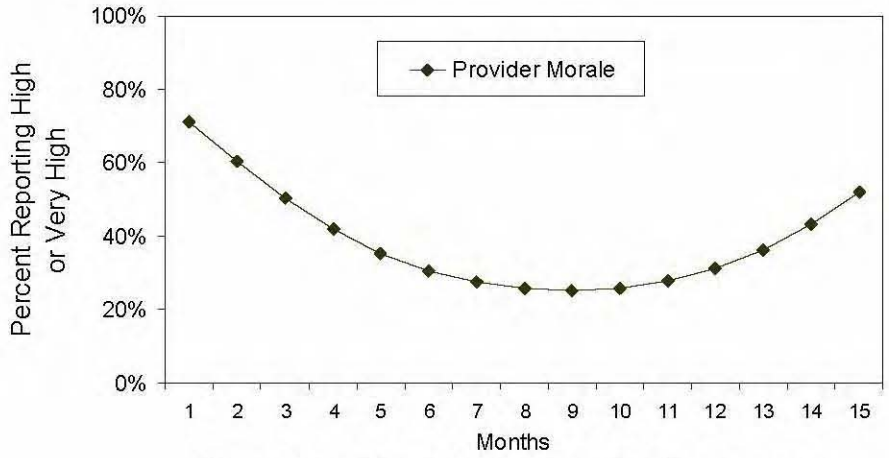

Figure 29: Predicted Levels of Provider Morale across Months of the Deployment

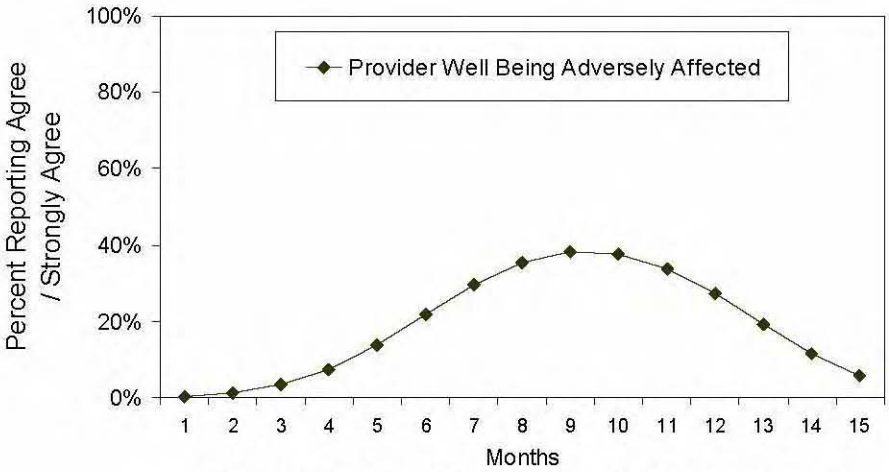

Figure 30: Predicted Levels of Provider Well-Being being Adversely Affected

The same curvilinear trends seen in the Soldier survey data were also apparent in PC personnel. Specifically, morale was rated fairly high among those deployed less than a few months. However, morale trended downward and was rated at its lowest point between seven and 11 months before trending upwards again. Note that although morale increased in months 12, 13, 14, and 15, it did not return to initial deployment levels. This observed curvilinear

relationship was significant at the p. < .07 level, slightly above the conventional cutoff. However, because of the importance of the discussion about PC personnel fatigue, burnout, and well-being across many short-staffed fields in the MEDCOM, the trend in these data is important to consider. Similarly, a significant curvilinear relationship was also observed between PC personnel reports of their mental well-being being adversely affected by what they had witnessed during the deployment. Again, note that months seven to 11 was the timeframe when respondents rated their mental well-being as most adversely affected by their deployment experiences.

As with the survey of Behavioral Health personnel, future Primary care surveys should include items such as the number of deployments, duty and time at remote outposts, whether or not personnel are organic to their unit or PROFIS (Professional Officer Filler Information System) replacements. Moreover, coordination with other MEDCOM organizations studying provider fatigue and burnout should occur so that richer data may be collected in order to best inform policy and best-practice decisions.

10.5 Resources

PC respondents also wrote in comments regarding equipment or supplies they felt would have improved their mission. Key concerns are summarized in order of frequency: (1) better functioning and connectivity to MC4 computers, (2) better lab equipment and assets, (3) better X-ray capabilities, (4) better resupply of pharmacy medications, (5) more mental health personnel, (6) various medical equipment such as defibrillators, orthopedic equipment, 12 lead EKGs, reference books, cast saws, (7) dedicated non-tactical vehicles, (8) better clinical training for medics, and (9) proper rotation of Emergency Room and Family Practice Providers—concerning PROFIS. Write-in comments provided by PC respondents elsewhere on the survey also touched on these concerns.

11. UNIT MINISTRY TEAM SURVEY

11.1 Unit Ministry Team Survey Methodology

A census sampling design was employed for the Unit Ministry Team (UMT) survey. That is, surveys were sent to Unit Ministry Team personnel throughout the OIF theater of operations and each was given an equal opportunity to complete and return surveys. Eighty-three (n= 83) UMT surveys were returned. This year's sample size was similar to previous MHATs (i.e., MHAT IV UMT (n = 78), MHAT III UMT (n =84), MHAT II UMT (n = 52).

MHAT V UMT survey items were identical to MHAT IV UMT survey items. Survey items focused on demographics, coordination of services, religious activities, skills and training, perceived stigma and barriers to mental health care, service member needs, and personal well-being. Additionally, each survey also had a qualitative section for all respondents to write in the equipment / resources / supplies that would have improved their ability to complete their mission.

As with the BH and PC surveys, chi-square tests of independence were calculated to see whether the percentages differed significantly between MHAT IV and MHAT V UMT survey responses. Differences were deemed significant using the standard p. < .05 cut-off. Unit Ministry Team Demographics are presented in Table 20.

Table 20. Demographic list of surveyed Unit Ministry Team Personnel.

	Unit Ministry Team Survey Demographics
Sample Size	n = 83
Age (Mode)	40+ years old
Gender (Mode)	90% Male
Rank (Mode)	59% Officer
Branch of Service (Mode)	89% Army
Component (Mode)	98% Active Duty
Average Months Deployed since 9/11	16.21
Average Number of Service Members supported by team	2,117
Average Hours spent per Week Outside FOB	22.06
Average Days per Month Living Outside FOB	4.28

11.2 Unit Ministry Team Survey Results

Significant percentage differences between MHAT IV (OIF 05-07, 2006) and MHAT V (OIF 06-08, 2007) UMT items are displayed below in Table 21. Non-significant percentage differences are provided in Appendix D so that base rate percentages can be compared for MHAT IV and MHAT V.

Table 21. Significant Differences between MHAT IV and MHAT V of Unit Ministry Team Survey Respondents (n=74).

	Percent Frequently or Allways		
	MHAT IV	MHAT V	p-value
COORDINATION WITH UNIT PERSONNEL (% Frequently or always)			
Talk with units commander.	69%	83%	0.05
Talk with units medical personnel.	72%	86%	0.05

Overall, there were very few significant changes between percentages reported in MHAT IV and this year (MHAT V). The percentage of respondents in the MHAT V UMT survey who reported that they frequently or always talked with the unit's commander and with unit medical personnel increased significantly from 69% to 83% and 72% to 86%, respectively. Results indicate an active and engaged UMT presence in OIF, as with last year's survey (MHAT IV). These data highlight that UMT personnel are increasingly involved with leadership and medical personnel when conducting their UMT mission.

12. MILITARY TRANSITION TEAMS MENTAL HEALTH AND WELL-BEING

MHAT V surveyed 46 Soldiers from transition teams:(b)(2)
(b)(2) The sample of 46 Soldiers in MHAT V is lower than the 113 Soldiers surveyed last year from this cohort.
(b)(2)

(b)(2) Thus, it is possible we surveyed more than 46 but were not able to capture their data from the unit demographics.
(b)(2)

The relatively small sample for MHAT V transition teams makes it difficult to draw inferences about differences observed between this year's sample and last year's sample. Therefore, we will merely look at percentages compared to last year without significance testing.

Transition team Soldiers are typically much older and have much more military experience than the average line unit Soldier. The modal age group for transition team Soldiers was 30-39 years of age and the mean years of service was 13.09 years. Transition team Soldiers surveyed were 100% male, and 68% were married. On average, these Soldiers spend 15.37 days outside their main FOB as would be expected with the nature of their mission.

Thirty-one percent of Transition team Soldiers surveyed during MHAT V (compared to 19% of BCT Soldiers) reported high or very high personal morale and 17% reported high or very high unit morale (compared to 13% of BCT Soldiers). Similarly, self-reported mental health problems were lower than BCT Soldiers. For instance, reports of any psychological problem—the composite measure of Acute Stress, Depression, Anxiety, or any combination of the three—was 13% in Transition Team Soldiers vs. 19% of BCT Soldiers.

As was found during MHAT IV, transition team personnel reported fewer psychological problems than BCT Soldiers. This is most likely due to their age and experience which are often seen as protective factors in buffering the effects of combat and deployment stress. Comparing self-reported mental health problems between MHAT V and MHAT IV, the rates were virtually identical: 13% screened positive for any mental health in both MHAT IV and MHAT V surveys.

13. SOLDIERS STATIONED IN KUWAIT

Soldiers stationed in Kuwait were previously surveyed by MHATs I (2003) and II (2004); however, they were not surveyed during MHATs III (2005) or IV (2006). At the request of Army Central Command, Kuwait, MHAT V (2007) surveyed Army Soldiers stationed in Kuwait who worked logistics, training, and re-supply missions for Operation Iraqi Freedom. In total, two-hundred twenty (n=220) Soldiers returned MHAT V Soldier well-being surveys. Below, Soldiers stationed in Kuwait are compared with Soldiers' responses from OIF on morale, mental health status, combat exposure, deployment concerns, stigma and barriers to seeking mental health care, and marital satisfaction.

Demographically, the key difference between OIF and Kuwait Soldiers was that 93% of Kuwait respondents were from the Reserve Component whereas 95% of OIF Soldiers were from the Active Component. Across other demographic variables such as gender, rank, age, and marital status, there were no dramatic differences between the two samples.

A comparable number of Kuwait Soldiers rated their personal morale as high or very high compared to OIF Soldiers (19.2% versus 20.6%). However, fewer Kuwait Soldiers rated their units' morale as high or very high (5.3% versus 11.2% of OIF Soldiers). With respect to mental health status, Kuwait Soldiers reported lower depression (5.2% versus 6.9%), anxiety (5.2% versus 7.3%), acute stress 12.0% versus 15.2%), and any psychological problem rates (12.8% versus 17.9%) than did OIF Soldiers.

Mirroring the lower prevalence of mental health problems, Kuwait-deployed Soldiers also reported fewer combat experiences than to Iraqi-deployed Soldiers. For instance, only 27.2% of Kuwait Soldiers reported that they had received incoming artillery, rocket or mortar fire compared to 78.9% of Iraq-deployed Soldiers; 41.5% worked in areas that were mined or had IEDs compared with 60.9% of Iraq-deployed Soldiers; and 34.1% knew someone seriously injured or killed during the deployment whereas 72.3% of Iraq-deployed Soldiers reported they knew someone seriously injured or killed.

Similarly, ratings of chronic, deployment stress were also lower among Kuwait-deployed Soldiers. For example, 34.1% of Kuwait respondents reported high or very higher concern about being separated from their family while 44.8% of Iraq Soldiers endorsed high or very high concern. Only 25.1% of Kuwait Soldiers reported concern about the long deployment while 60.1% of Iraq-based Soldiers reported high concern. There were, however, similarities between the Kuwait and Iraq samples on a few deployment stress items such as ratings of concern about continuous operations (31.6% of Kuwait respondents 31.6% of Iraq respondents), and lack of time off for personal time (40.2% compared to 39.2% for Iraq Soldiers).

When asked about stigma and other barriers to seeking mental health care, Soldiers who screened positive for a mental health problem rated these items similarly regardless of whether they were deployed to Kuwait or Iraq.

Marital satisfaction among married Soldiers deployed to Kuwait trended slightly higher than among married Soldiers deployed to Iraq. Specifically, Kuwait-deployed Soldiers reported higher ratings on: being in a good marriage (71.7% vs. 68.2%), a stable relationship (69.3% vs. 65.7%), feeling like a part of a team in their marriage (70.5%vs. 65.8%), and that they were in a happy relationship (74.3% vs. 68.8%).

In sum, Kuwait-deployed Soldiers, the majority of which who were sampled being Reserve component Soldiers (versus mostly Active component for the OIF sample), reported fewer mental health problems, less combat exposure and fewer concerns about typical deployment stress than did OIF-deployed Soldiers. Rates of stigma and barriers to seeking mental health were rated comparably. Kuwait-deployed married Soldiers reported being slightly more satisfied in their marriage compared to the OIF sample.

14. THEATER SUICIDE AND SUICIDE PREVENTION

14.1 Theater Suicide Rates

Military suicide continues to be a significant problem in Iraq. Since the beginning of OIF, there have been 113 confirmed Army suicides in the Iraqi Theater of Operations (ITO). Multi-National Forces-Iraq (MNF-I) is tracking 34 probable Theater suicides for 2007 as of NOV 14 (29 Confirmed), higher than 2006 at this point in the year. These 34 reflect 28 Army, 5 Marines and 1 Navy fatality, producing an annualized rate in theater of approximately 24/100,000[1]. If this rate holds true for all of 2007, it will be the highest rate since the war began. Theater rates of suicide have trended upward since 2004 (Figure 31), and remain elevated compared to both the total Army rate and rates observed in the civilian population. This section will discuss in detail what is known about the problem, and the present status of prevention efforts.

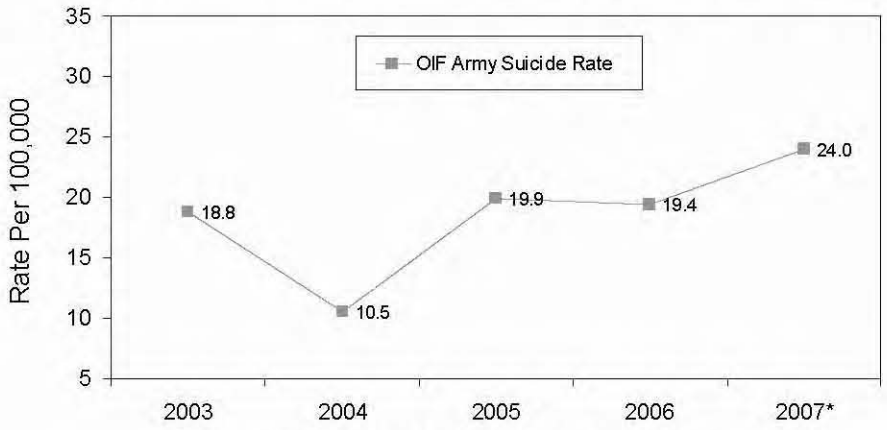

Figure 31: OIF Army Suicide Rates
*2007 Estimated Rate Nov 14 2007

The 10 year rate for suicide and average rate for the entire active duty Army suicide is presented in Table 22. There is no reliable method in place to collect and report Reserve and National Guard suicide data when personnel are not serving on active duty. As such, our discussion of these components is limited to their behavior when in active status.

The Army wide suicide rate has been trending upward in recent years, driven in part by the increase in Theater suicides. Total Army Rate was 17.3 per 100,000 in 2006, up from the rate of 9.8/100,000 observed at the beginning of hostilities in 2001 (Table 22). The ten year average has thus been adjusted upward from the 11.6/100,000 number reported in MHAT IV to a 12.2/100,000 number for MHAT V.

[1] Calculated as of Nov 14, 2007, (Day 318) based on the 34 MNF-I suicides year to date, for an estimated annual total of 39. Estimates use an MNF-I 2007 average day "boots on the ground" total of 158,000 forces, which reflects pre-surge Iraq troop levels of 138,000 leading to post-surge peak levels at 168,000 by years end for a rate of 24.7/100,000 for forces. The Army only number used in Figure 31 was estimated at the same date using 28 Army suicides for 32 estimated annual deaths. With an estimate of 134k Army average census for 2007 this yields a 24/100,000 rate. True boots on the ground totals for 2007 will be available from Army G-1 at years end.

Table 22: US Army Suicide Rates -- Ten Year Averages (1997-2006)

Calendar Year	Rate per 100,000
1997	10.6
1998	12.0
1999	13.1
2000	12.1
2001	9.8
2002	11.3
2003	12.4
2004	10.8
2005	12.8
2006	17.3
Average 1997-2006	12.2
U.S. Average	10.9*

**NIMH Population Average for 2004 (Latest Year Available)*

14.2 Confirmed vs. Probable Suicide

Military suicides are considered as confirmed when the death is ruled a suicide by the Medical Examiners at the Armed Forces Institute of Pathology (AFIP) in Washington D.C. This can be a time consuming process taking up to a year in some cases. For this reason, the 2006 Army suicide rate was not finalized until November 2007. Clearly, while referencing confirmed cases only makes sense in discussing past years rates and numbers, it sheds less light on the current year. The time lag in confirmation tends to underestimate current numbers. For this reason 2007 discussion will focus on "probable" suicides, whereas 2006 and prior will be "confirmed" numbers.

14.3 Army Verses Total Forces Data

A great deal of information is available for Army Suicides in Iraq. The Suicide Risk Management and Surveillance Office (SRMSO) at Fort Lewis, WA, collects detailed information on all Army Suicides via the web based Army Suicide Event Report (discussed below), and presents this information in a readily searchable format. The Army MEDCOM Suicide Prevention Office (SPO) at Fort Sam Houston has also performed detailed analysis of Army Suicides. The Army G-1 publishes weekly Suicide Updates which break out Army suicides in the Iraqi Theater of Operation (ITO), and gives the status of confirmed vs. probable cases.

Comparable granularity for total force numbers is difficult to obtain. MNF-I numbers combining Marines, Navy and Air Force fatalities are tracked by MNC-I C-1, as is total force structure, but detailed information on motives, methods and demographics are less readily available. Each service collects different information on suicide in different ways, and when reporting data may or may not consider ITO fatalities separate from total numbers. In this Chapter, wherever possible, MNF-I data is presented, but SRMSO, SPO and Army G-1 data contain only Army information.

14.4 Month in Theater Appears to Play a Significant Role in Suicide

A curvilinear relationship exists between month in theater and suicide probability for Army personnel (Figure 32)[2]. Using the average rate from the current 10 year average for suicide (Table 22) the current Army force structure in Iraq would expect one suicide per month. The Army Theater policy for tour length is 15 months in 2007. Dividing that 15 months into thirds, and looking at phases of deployment (Early, Middle and Late) the middle months 6-10 (Mid-Tour) are significantly elevated in suicide rate from that expected by chance ($p<.05$).

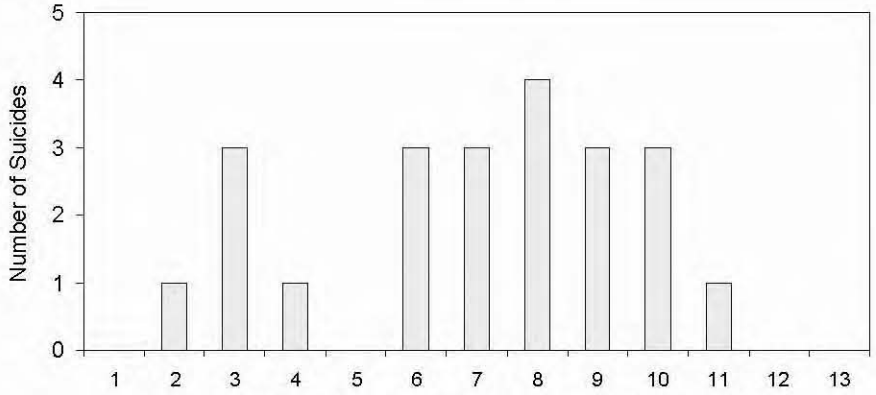

Figure 32: Number of Confirmed Suicides by Month Deployed

The form of this relationship was also apparent in the data from the Soldier well-being survey. Figure 33 plots the percent of E1-E4, male Soldiers that responded with any response other than "Not at All" to the question "Over the last four weeks, how often have you been bothered by thoughts that you would be better off dead or hurting yourself in some way."

[2] By using confirmed cases, this Figure under-represents suicides occurring in the Late Period (recent months): Suicides in this period are largely still unconfirmed, and not all units have yet completed their 15 month tours. Our best estimate for this period is that it will be neither significantly elevated nor depressed when all data is in.

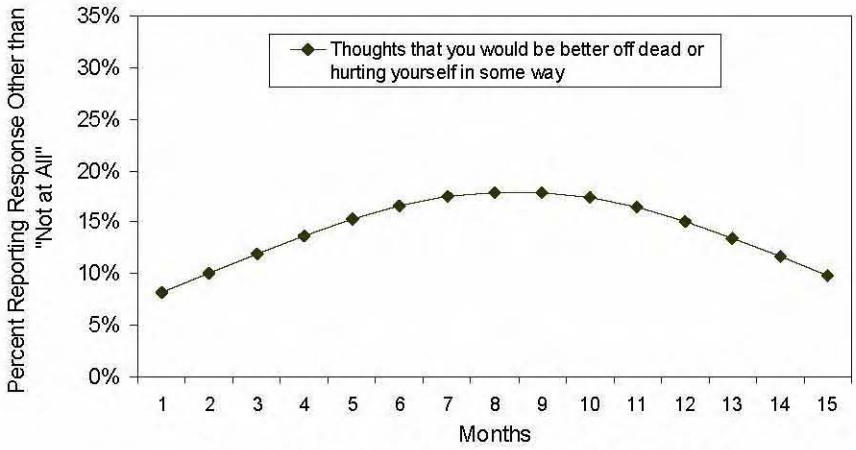

Figure 33: Predicted Levels of Suicide Ideation by Month for E1-E4, Male BCT Soldiers

This curve seems to also hold true for emergency psychiatric referrals. The following monthly total was kept by (b)(2) and tracks the first nine months of a (b)(2) Deployment during 2007. The same curve, this time spiking at month eight and then appearing to decline was observed (Figure 34).

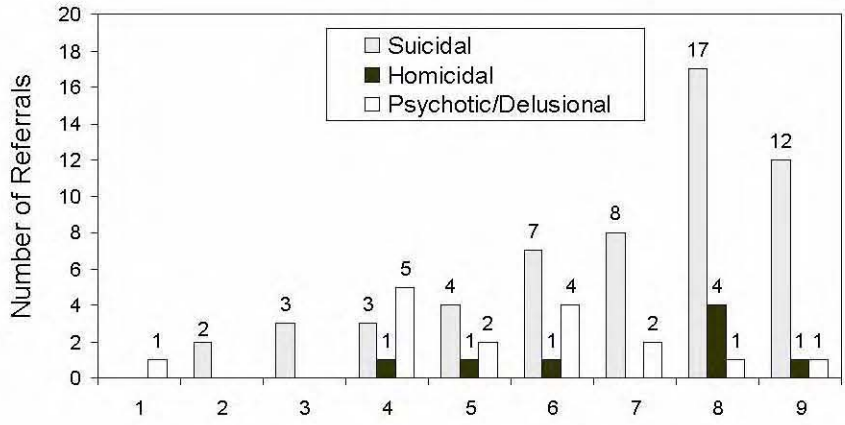

Figure 34: Emergency Mental Health Referral By Month Deployed

14.5 Suicide Prevention Programs

The previous MHATs have reviewed the status of the OIF theater's suicide prevention and surveillance program, including an analysis of completed suicides. The MHAT V conducted a similar review of MNF-I's prevention and surveillance program and a detailed analysis of completed suicides.

14.6 Suicide Prevention Structure

MNF-I operates a Suicide Prevention Committee, chaired at present by the Chief of Medical Clinical Operations for MNF-I. The charter of this committee is to (a) review suicide policies and procedures within MNF-I, (b) assess trends in suicides and suicidal behaviors within theater, and (c) advise Commanders and leaders in the prevention of suicides, to include training and education. They have met quarterly since their formation in August 2006.

Restructuring of theater suicide prevention efforts occurred coincidental with MHAT V. A Suicide Epidemiology Consultation Team (EPICON) made up of representatives from the Army G-1 and Office of the Surgeon General (OTSG) was conducted in October of 2007. The MNC-I Commander immediately endorsed and enacted all major recommendations of this Committee: Proponency has been established for MNC-I suicide prevention with the C-1, mirroring the Army's proponency at G-1. MNC-I has set up a Suicide Prevention Review Board, directing efforts in theater. Greater visibility of suicide prevention efforts will be enhanced by newly created regional Suicide Prevention Boards to be established in each region of the Iraq theater of Operations (ITO). These initiatives should result in greater visibility for suicide prevention efforts throughout theater. The effectiveness of these new structures will have to be assessed six to twelve months after implementation, but clearly the efforts to reduce suicide in ITO are now both robust and command-driven.

14.7 Theater Suicide Review

A detailed summary of Army theater suicides for 2007 was conducted by the forensic investigator, MNC-I Criminal Investigations Division (CID) on 02 October 2007 (Appendix E). A similar review was performed by the Suicide Risk Management and Surveillance Office (SRMSO) at Fort Lewis, WA, two weeks later, with a focus on Soldiers in Iraq and Iraq suicides. The results of both studies are similar, and thus will be examined together. As has been consistently true for reviews going back as far as 20 years (Rock, 1988), military suicide is most often precipitated by the loss of a relationship – either a spouse or other intimate partner. The SRMSO study reflected that 68% of Iraq suicides had had an intimate relationship failure (Figure 35) versus 56% of the suicides in the non-Iraq population. This highlights the importance of the "Dear John" letter as a factor in the deployed setting. The CID review of suicides in all branches of the military for Iraq found that 13/25 cases analyzed (52%) also had had serious relationship problems with a significant other immediately prior to the suicide (Appendix E).

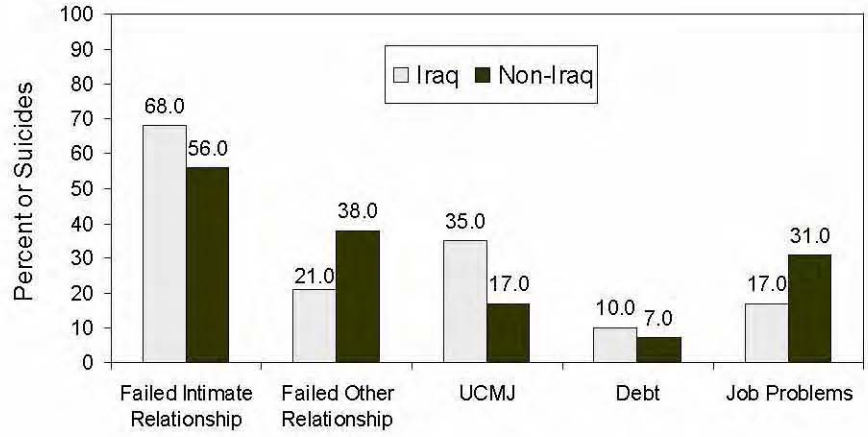

Figure 35: Active Army Suicides 2007 (SRMSO)

A distant second cause implicated in suicide is loss of career, usually through UCMJ or other criminal charges. As is illustrated above in Figure 35, 35% of Army cases had recent UCMJ—much higher than the suicides in CONUS. The CID review for all services included in Appendix E found a 24% incidence of UCMJ. These two factors alone—loss of career and loss of a relationship – appear to account for the majority of the suicides seen in ITO.

For the Active Army as a whole, people who committed suicide in 2007 are, on average, older and higher ranking than had been seen in previous years. For the first time in at least a decade, the majority of suicides (54%) were of rank E-5 or higher. In theater this is also the highest ranking year since the commencement of hostilities, although the majority of suicides in ITO remain junior enlisted personnel (E1-E4). (Table 23)

Table 23: Summary of Demographics Confirmed Army OIF 2003 Thru 15 October 2007

	2007 Army Suicides	2007 Iraq Suicides	2006 Iraq Suicides	2005 Iraq Suicides	2004 Iraq Suicides	2003 Iraq Suicides
Suicide by firearm/gunshot	65%	91%	100%	95%	100%	95%
Male	94%	100%	82%	95%	100%	91%
Age 30 or younger	69%	83%	86%	80%	91%	82%
E-4 or below	46%	61%	77%	65%	82%	68%
Married	49%	32%	18%	35%	0%	41%
Minority (non-white)	20%	18%	14%	10%	20%	43%

The Iraq CID review suggests that 60% of the 2007 suicides showed behavioral changes or signs of depression prior to their suicide. The SRSMO review of ASER data also suggests that a substantial percentage of Army personnel who go on to commit suicide sought help in the 30 days prior to their death (Table 24). One of the more impressive statistics in Table 24 is that 50% of all suicides presented at the MTF for care within 30 days of the event. This supports the majority of the research literature, which suggest that although people considering suicide may

not be able to accurately identify their problems as emotional in nature, or marshal the right resources to help them, they manifest an awareness that something is wrong and visit primary care much more often than people who are not suicidal (Appleby, et al 1996; Meats & Solomka, 1995; Nutting, et al, 2005; Vassilas & Morgan, 1993). This highlights the importance of suicide prevention and awareness in the Primary Care and pastoral setting.

Table 24: Suicide Review 2007 Iraq: Help Seeking within 30 Days

Within 30 Days Suicide Saw:	Non-Iraq	Iraq
Seen by MTF	50% (14/28)	27% (4/15)
Seen by Chaplain	6% (1/18)	36% (5/14)
Seen by OP MH	23% (7/30)	28% (5/18)
Seen by Both Chaplain and MH	14% (2/14)	21% (3/14)
Taken Psychotropic Meds	42% (10/24)	13% (2/16)

14.8 Army Suicide Event Report (ASER)

The primary tool for surveillance of Army suicide remains the Army Suicide Event Report (ASER) a reporting and tracking mechanism for completed suicides and non-lethal suicide events that result in hospitalization and/or evacuation. The ASER was developed, and initial validation conducted by the U.S. Army Medical Research Unit-Europe, as a means to track in near, real time suicides and suicidal behaviors of Army personnel within the U.S. Army, Europe (USAREUR) (Dolan, Schroeder, Wright, Thomas, & Ness, 2003).

Following the recommendation of the Mental Health Advisory Team (MHAT) I, the U.S. Army Medical Command issued a policy directing that the ASER be used throughout the Iraqi Theater of Operations. The Suicide Risk Management & Surveillance Office (SRMSO) located at Fort Lewis, Washington has operational oversight of the ASER, conducts routine data analyses and publishes reports of these findings. The SRMSO also has responsibility for updating changes to the ASER, with the latest update occurring during the spring of 2007.

The SRMSO has issued guidance for when an ASER is to be completed. The ASER should be completed for all fatalities, hospitalizations, and evacuations where the injury or injurious intent is self-directed. It is not intended to replace the psychological autopsy, which is limited to fatalities in which the manner of death is uncertain (b)(5)

Quality control of ASERS in theater has remained problematic, both in tracking whether they have been submitted and in ensuring their quality. This is due in large part to the mechanism of data entry, unique to the ASER. ASER information is directly entered into database fields of a web page based at Fort Lewis, and from that point data automatically enters the ASER database. There is at this point no way to audit or edit submissions. Further, there has in past been substantial difficulty in communication between the SRMSO office and Theater. For these reasons, on 06 OCT 07 the Theater Mental Heath Consultant issued a FRAGO(b)(2) directing them to send the Mental Health Consultant a copy of the ASER when they submit the form. This allows a retrospective review and feedback to the person completing the ASER.

It is worth noting that this problem has also been noted as having been repaired previously for MHAT-IV, so continued monitoring of the effectiveness of theater surveillance is warranted. Ideally, the ASER should be a component of AHLTA (Armed Forces Health Longitudinal Technology Application) and AHLTA-T (Armed Forces Health Longitudinal Technology Application - Theater), rather than a free standing web site, and data so inputted could be directly entered as medical information, which would allow quality control, auditing and review not presently possible in the current system.

14.9 Discussion

The US Public Health Service (1999) considers suicide risk and prevention in terms of relative *Risk Factors* and *Protective Factors for Suicide*. These factors have been adopted by the Centers for Disease Control (CDC) and are used to organize the discussion of suicide in Iraq.

14.9.1 Risk Factors

Risk factors most relevant to Army suicide in Iraq are presented below:

1. **Loss (relational, social, work, or financial).** This has consistently been the key variable associated with suicide. It appears that long tour durations, in itself, does not increase rate of suicide, but rather, serves as a secondary factor in provoking marital disruption and in kindling the loss of relationships. Figure 14 illustrates how intent to divorce rises as an almost straight line function over time deployed. Aggressive efforts to strengthen families and improve communication are logical remediation to this problem, as well as psychological resilience training aimed at better weathering these break ups.

2. **Isolation, a feeling of being cut off from other people**. The Soldier survey assesses this directly by asking whether soldiers are "Feeling Distant or Cut off from People". Results note that 51.5% of all soldiers surveyed have experienced these feelings of isolation at least a little bit in the past month. MWR efforts to deliver mail, and enhance internet and phones, have probably helped in this dimension, but this variable should continue to be monitored over time, and efforts to keep soldiers feeling engaged in what is going on "back home" (i.e. Superbowl parties) should be encouraged.

3. **Barriers to accessing mental health treatment.** As the troop footprint in Iraq has surged, the number of mental health providers relative to the number of Soldiers has decreased. As noted in Section 9.1, behavioral health staffing is at its lowest proportional level since OIF 1. This has resulted in an increase in perceived barriers to care and Behavioral Health provider burnout.

4. **Easy access to lethal methods:** It has been proposed that the ready availability of weapons is a primary reason for the elevated suicide rate in theater. While firearms do increase the lethality of suicide attempts, epidemiological studies do not generally support a finding that either gun ownership in general, nor that countries that ban firearms result in a lower population suicide rate. Krug (1998) found "no significant association between gun ownership levels and total suicide rate" As the per capita gun stock in the U. S. increased by more than 50% from 1972 to 1995, the population suicide rate has remained constant. Further, weapons have been available in OIF since 2003. Any rise in rate this cannot be attributed to weapons availability.

5. **Unwillingness to seek help because of the stigma attached to mental health**. While stigma rates have decreased, stigma nonetheless continues to be a major issue in the willingness of service members to seek care. Soldier and leader interviews indicate first line supervisors are the primary barrier to seeking care. Continued efforts to reduce stigma among Soldiers and leaders is warranted.

14.9.2 Protective Factors

Protective factors buffer individuals from suicidal thoughts and behavior. To date, protective factors have not been studied as extensively or rigorously as risk factors. Identifying and understanding protective factors are, however, equally as important as researching risk factors. Protective factors which act to reduce suicide probability in Iraq are listed below.

1. **Lack of Intoxicants**: Alcohol is a known risk factor for military suicides. The relative lack of availability of intoxicants in ITO should therefore act to lower the rate of suicide. It has long been known that intoxicants make the act of suicide more likely through disinhibition effects. The National Violent Death Reporting System examined toxicology tests of those who committed suicide in 13 states, and 33.3% tested positive for alcohol; 16.4% for opiates; 9.4% for cocaine; 7.7% for marijuana; and 3.9% for amphetamines (Karch et al. 2006).

2. **Effective clinical care for mental, physical, and substance abuse disorders.** Certain units within the ITO deployed with a comprehensive plan for Deployment Cycle Support, and a number of best practices for effective soldier support, which appears to have resulted in a significant decrease in aberrant behaviors after the program was implemented. (Warner et all 2007). These results, including suicide, suggest wider adopting of deployment cycle support model for BCT.

3. **Easy access to a variety of clinical interventions and support for help seeking.** Recent redistribution of troops in the Battlespace calls for equally agile shifts in Behavioral Health Support, which is a strong argument for locating the Theater MH Consultant at the MNC-I level.

4. **Family and community support.** Efforts to strengthen family and unit bonds should be encouraged, and the definition needs to be broadened to include significant others regardless of marital status (fiancée support).

5. **Skills in problem solving, conflict resolution.** Relationship enrichment and training at both the Soldier and the Family Readiness Group (FRG) level designed to improve communication will assist in re-integration and strengthening relationships. Evidence supports stabilizing relationships as an effective suicide prevention intervention.

14.10 Surveillance

As noted in MHAT-IV, each Service uses its own unique tool for tracking suicides.
The Air Force uses a system called the SESS, Navy the DONSIR. The Coast Guard presently has no centralized reporting system An effort is presently underway to expand the ASER from an Army system to a tri-service tool, to be called the DoDSER, which would greatly enhance surveillance.

15. SUMMARY, DISCUSSION, AND RECOMMENDATIONS

This section of the report first summarizes the key findings across the report. Second, it consolidates the key findings into several central themes and from these themes makes a series of recommendations.

15.1 Summary of Soldier Well-Being Survey Findings

The summary of findings from the Soldier well-being survey are presented in terms of the conceptual model presented in Figure 1 (section 4.1) by outcomes, risk factors and protective factors.

15.1.1 Morale, Mental Health, Performance and Ethical Behavior Outcomes

1. The percent of Soldiers who reported high or very high unit morale was significantly higher in 2007 than 2006.

2. The percentage of Soldiers screening positive for mental health problems was similar to 2006 and other years.

3. Soldiers' reports of the degree to which their work performance was impaired by stress or emotional problems were significantly lower in 2007 than in 2006.

4. 11.2% of Soldiers met the screening criteria for concussion (also called mild Traumatic Brain Injury – mTBI). Less than half of these were evaluated by a medical professional.

5. Soldiers' reports of engaging in unethical behaviors were largely unchanged relative to 2006; however, they did report a significant decline in "modifying" the rules of engagement.

6. Soldiers who screened positive for mental health problems were significantly more likely to report engaging in unethical behaviors.

15.1.2 Risk Factors: Soldiers

1. Normalizing data for months deployed, Soldiers reported a significant decline in exposure to a wide range of combat experiences relative to 2006. The decline was particularly pronounced for Soldiers in theater for six months or less.

2. On an unadjusted basis, Soldiers reported high exposure to a variety of intense combat events. In particular, 72.1% of Soldiers reporting knowing someone seriously injured or killed.

3. There was considerable variability across units in terms of combat exposure.

4. On a normalized basis, relative to 2006 Soldiers reported a significant decline in deployment concerns such as being separated from family. On an unadjusted basis, Soldiers' top concerns were deployment length and being separated from family.

5. Deployment length was a risk factor for most outcomes. A number of outcomes (morale, mental health, alcohol use, and unethical behaviors) show improvements in the last 4 months of the deployment.

6. Even with an improvement in reports of mental health in the last months of the deployment, nearly three times as many Soldiers would be expected to report mental health problems at month 15 than would be expected to report problems at month one.

7. Soldiers on multiple deployments report low morale, more mental health problems, and more stress-related work problems. Soldiers on their third/fourth deployment are at particular risk of reporting mental health problems.

8. Soldiers reported an average of 5.6 hours of sleep per day which is significantly less than what is needed to maintain optimal performance. Reports of sleep deprivation are a significant risk factor for reporting mental health problem and work-related problems.

9. Officers appeared to underestimate the degree to which sleep deprivation negatively impacts performance.

15.1.3 Protective Factors: Soldiers

1. Soldiers' ratings of their social climate (leadership, cohesion and readiness) were significantly higher in 2007 than 2006.

2. Soldiers perceptions of the stigma associated with mental health care were significantly lower in 2007 than 2006.

3. In contrast to stigma, Soldiers' perceptions of several barriers to care increased. Increases were likely driven by Soldiers at command outposts who had trouble accessing mental health.

4. Soldiers' perceptions of their marital quality did not change from 2006.

5. Soldiers reported either no change or a decrease in their willingness to report a unit member for engaging in unethical behaviors relative to 2006.

6. Soldiers reported significant increases in training adequacy for managing the stress of deployments and for identifying Soldiers at risk for suicide.

7. Soldiers who received pre-deployment Battlemind training reported lower mental health problems.

8. Soldiers reported a significant increase in the adequacy of ethics training.

15.2 Summary of Behavioral Health Personnel Findings

1. Behavioral Health personnel in 2007 are conducting significantly more command consultations than personnel in 2006.

2. Behavioral Health personnel report significantly more shortages in personnel than did Behavioral Health personnel in 2006.

3. Behavioral Health personnel in 2007 report significantly more burnout than personnel in 2006.

4. The ratio of Behavioral Health personnel to total Army strength is 1:734. This ratio is the highest since OIF 1 where it was 1:836.

15.3 Summary of Primary Care Personnel Findings

1. Primary Care personnel in 2007 report significant increases in helping Service Members with mental health problems and referring Service Members to mental health services relative to 2006.

2. Primary Care personnel report significant increases in the number of medications prescribed for sleep, depression, and anxiety relative to 2006.

15.4 Summary of Unit Ministry Team Personnel Findings

1. Unit Ministry Team members in 2007 report talking more to commanders and with unit medical personnel than members in 2006.

15.5 Summary of Suicide Assessment

Since the beginning of OIF (March 2003), there have been 113 confirmed Army suicides in Iraq. The MNF-I has an active Suicide Prevention Committee, chaired by the Chief of Clinical Operations for the Command Surgeon. This has recently been augmented by an MNCI-I Suicide Prevention Board Chaired by the Corps Chief of Staff. The current suicide training program is being completely revamped into a much more robust program, which will require further review once established to gauge effectiveness. The Automated Suicide Event Report (ASER) is being widely used in the theater by behavioral health care providers, but only for suicides/suicide events by Army personnel. Although there are numerous service-specific mental health tracking systems, there is not a single, joint tracking system capable of monitoring suicides, mental health evacuations, and use of mental health/combat stress control services in a combat environment.

15.6 Discussion and Recommendations

In providing recommendations, it is obvious that there is no single panacea for improving the resilience and mental health of Soldiers. If trends identified in the current MHAT report continue, mental health may improve over time because of a reduction in several key risk factors related to mental health such as combat experiences; nonetheless, in making recommendations to optimize behavioral health we must assume (a) Soldiers will continue to be exposed to potentially traumatic events, (b) deployments will continue to be long, and (c) many Soldiers will be required to deploy to Iraq multiple times.

Conceptually, many recommendations evolve out of considering ways to enhance the protective factors identified in Figure 1 (section 4.1). For instance, there is evidence that training for resilience works. This evidence comes from both large randomly controlled experiments of Battlemind (Adler et al., in review; Thomas et al., 2007), and from MHAT V Battlemind results in the current report (see section 7.7.3). Therefore, the current MHAT supports the existing Battlemind resiliency training programs (many of which were recommended in MHAT IV and subsequently implemented by the Army).

At the same time, it is apparent that units frequently implement several resiliency initiatives simultaneously. For example, units who provided Pre-Deployment Battlemind Training for Soldiers also tended to institute an array of behavioral health initiatives such as (a) making Battlemind Training available for Family members, (b) educating leaders at all levels on the role they take in reducing stigma and enhancing Soldier resilience, (c) actively incorporating behavioral health personnel in unit training, (d) developing action plans for conducting in-theater unit needs assessments and (e) performing time-based and event-based Battlemind debriefings for at risk units. By implementing this array of initiatives, units have worked to enhance Soldier resilience through training, enhancing family support, creating healthy unit climates, and reducing stigma and barriers to care.

Consequently, the first central theme to emerge is the observation that some units have made fundamental changes in how they use organic behavioral health officers when implementing a broad array of behavioral health initiatives (Warner et al., 2007a; 2007b; 2007c). Therefore, the first set of recommendations centers on the changing role of behavioral health officers in operational units and ways these changes might be enhanced to strengthen the impact of behavioral health prevention initiatives.

In conducting the MHAT review, it also became clear that operational units needed to partner with Corps-level assets to implement the complete spectrum of treatment and preventive behavioral health initiatives. Given the high rates of mental health problems, operational units do not appear to have the organic assets to both provide treatment and engage in active outreach prevention programs. One solution to this is to consider how existing Corps-level assets should be allocated within theater to optimize coverage. Consequently, the second theme focuses on ways to enhance communication, integration of efforts, and optimal allocation of behavioral health resources across the theater of operations. Part of this focus is on ways to document theater-wide workload and ensure that Soldiers records are properly protected.

A third theme centered on the need to find ways to increase behavioral health assets in theater. The primary focus for this recommendation is to consider ways to increase assets available to operational units. The shortage of behavioral health personnel in the Army is well-documented, so the recommendations attempt to provide alternatives that do not unnecessarily tax already-burdened behavioral health assets.

The fourth theme relates to ways that stigma might be reduced. Most of these recommendations focus on the role leadership plays in establishing a climate where Soldiers are comfortable seeking mental health care. The fifth theme emphasizes the importance of sleep management for mitigating a number of behavioral health problems and performance problems and considers areas for future research. The sixth theme considers specific results from the Soldier well-being survey in terms or providing medical care. The seventh theme provides recommendations for potentially reducing the multiple deployment effect on NCOs. The eighth theme emphasizes the role of relying on validated training for both Soldier resilience

and ethical behaviors. The ninth section provides recommendations to enhance suicide prevention; the tenth for managing concussions, and the final section for strengthening Army families.

15.6.1 The Changing Role of Behavioral Health Officers in Operational Units

Responses to the Behavioral Health surveys and interviews with behavioral health personnel revealed that the role of the behavioral health officer within Divisions and Brigades has expanded. The details of many of these changes are provided in recent publications by Warner and colleagues (2007a; 2007b; 2007c); however, one of the key changes is that Division Psychiatrists and Brigade Behavioral Health Officers play a significant role as consultants to commanders on a variety of preventive behavioral health issues, one of which is conducting and providing behavioral unit needs assessments. This integration of mental health prevention into many aspects of operational planning has three implications.

First, with the advent of modularity, the traditional role of Division Mental Health was reprogrammed to assign a mental health officer and mental health specialist to each Brigade Combat Team (BCT). Additional mental health assets to include the Division Psychiatrist were placed into the Sustainment Brigade. Such placement isolated the Division Psychiatrist from the Division Surgeon, resulting in the Division Surgeon having no readily available consultative resource. At the time of arrival of MHAT-V into the ITO, two of the three regions commanded by an Army division lacked a psychiatrist in the division surgeon cell. As a result, these two divisions did not have a psychiatrist readily available to assist the Division Surgeon in addressing regional-level mental health issues. In addition, since the Sustainment Brigades were on different deployment cycles than the division headquarters, the Division Surgeons were left with no division-level psychiatrists for up to the last four months of deployment.

Recommendation BH1: Modify the MTOE to move the Division psychiatrist from the Sustainment Brigade to the Division Surgeon cell.

Second, in the current MTOE configuration, behavioral health officers are assigned to the Brigade Support Battalion (BSB) of the BCT. In the legacy Behavioral Health treatment model, this configuration was logical. However, as behavioral health officers increasingly serve as consultants to the entire Brigade, they need to be directly accountable to the Brigade commander. It would therefore be advantageous to move the Brigade behavioral health officer position from the support Battalion to the Brigade Surgeon's cell.

Recommendation BH2: Change the MTOE to move the Brigade Mental Health Officers from the BSB to the Brigade Surgeon cell.

A third implication associated with having behavioral health officers provide Bridage-level behavioral health consultation, is that the behavioral health officers within Brigades need to train with the unit and learn how they can be most useful to specific Brigade commanders (RTO-TR-HFM-081, 2007). To facilitate this, Brigade Mental Health Officers need to be a priority fill, and the AMEDD should avoid assigning behavioral health officers to units on a PROFIS basis immediately before Brigades deploy. In addition, the COSC Course should be updated to increase relevance to Division and BCT behavioral health assets.

Recommendation BH3: Prioritize the assignment of Behavioral Health Officers to Brigades to allow sufficient time for the behavioral health officer to train with the unit. Avoid PROFIS assignment when possible.

Recommendation BH4: Revise the COSC Course to increase its relevance to Division and BCT behavioral health assets.

15.6.2 Optimizing Theater Assets

A number of findings demonstrated the complexity of managing the behavioral health assets in theater to help units implement a range of preventive and treatment services. First, Soldiers' risk for behavioral health problems varied as a function of combat intensity and length of time implying that the allocation of behavioral health assets needs to be frequently reassessed and reallocated. Second, theater-wide changes in operational strategy such as moving Soldiers from FOBS to command outposts create barriers to care that need to be monitored and addressed. Third, behavioral health surveys recorded that behavioral health personnel from the Air Force and Navy are helping provide services, yet personnel from these different services deploy to theater for varying lengths of times. Finally, there is push to use electronic medical record (EMR) systems to capture workload within the ITO.

Taken as a whole, this complexity indicates a need for several changes designed to enhance the oversight of the MNF/C-I Theater Mental Health Consultation position. These changes are designed to optimize behavioral health care delivery by leveraging resources within the ITO.

First, in terms of position, traditionally the Theater Mental Health Consultant has been embedded as a staff officer within the medical brigade. At this level, however, the Theater Mental Health Consultant does not have optimal oversight of mental health assets and issues related to the entire Theater of Operations. Therefore the first recommendation is to:

Recommendation TH1: Assign the Theater Mental Health Consultant and senior Mental Health NCOIC to MNC/F -I Surgeon's office.

Second, to facilitate communication between the Theater Mental Health Consultant and the regional MND's it would be valuable to:

Recommendation TH2: Have each MND Mental Health Consultant (typically the division psychiatrist) work with the Theater Mental Health Consultant to address MND-level mental health issues.

Third, the diversity of personnel providing behavioral health services (Army, Navy, Air Force) requires a need to oversee and enforce procedures to (a) ensure consistency of care, (b) uniformity of recording behavior health visits and workload, and (c) establish procedures for records protection.

Recommendation TH3: Hold a quarterly ITO behavioral health conference. Goals are to enhance networking, communication, coordination, increase BH personnel morale and well-being, and offer Continuing Medical Education (CME) (MNF/C-I).

The final set of recommendations relate to electronic medical records (EMR). The current electronic medical workload data system is designed for Disease and Non-Battle Injury (DNBI) capture and does not allow for important trend monitoring of high risk behaviors and determination of factors contributing to combat operational stress. The capture of such information is essential for maximizing resources; proactively identifying potential problem areas enabling early intervention, and ensuring prevention resources are appropriately allocated.

Analysis of aggregated COSC-WARS data will assist the MND mental health consultants and the Theater Mental Health Consultant to appropriately manage mental health resources across the ITO.

Recommendation TH4: Enforce use of the Combat and Operational Stress Control Workload and Activity Reporting System (COSC-WARS) throughout the ITO (MNF/C-I).

In discussions with behavioral health providers in theater and the Theater Mental Health Consultant, it became apparent that behavioral health personnel recognize the value of COSC-WARS as a system to collect and record behavioral health information. The primary objection is the length of the reporting tool and the questionable utility of many of the data-points. The current behavioral health consultant has recognized this shortcoming and is revising the COSC-WARS reporting tool.

Recommendation TH5: Develop and implement an improved version of COSC-WARS leading to a joint service behavioral health workload reporting tool (MNF/C-I).

In the long-term, there is a need to avoid proliferation of electronic medical record (EMR) systems. However, to avoid separate EMR systems, the current EMR systems need to be modified to capture workload data relevant to mental health providers in theater. The end goal is to negate the need for a separate COSC-WARS reporting system.

Recommendation TH6: Revise the current electronic medical record (AHLTA-T) to capture individual data-points currently reported in COSC-WARS and revise the current coding options for psychiatric diagnoses to be consistent with current Diagnostic and Statistical Manual of Mental Disorders. In addition, modify the Joint Medical Electronic Workload System (JMEWS) to permit direct input of combat operational stress control aggregate data such as the number of command consultations, prevention classes, and Battlemind debriefings. Any working group addressing potential mental-health related revisions of AHLTA-T should include mental health providers who have deployed to the ITO and are experienced using AHLTA-T.

As noted above, as the operational theater matures in Iraq, there is a clear push to use EMR reporting systems. In interviews with behavioral health personnel, however, it is apparent that not all sites are resourced adequately to allow them to use EMR systems.

Recommendation TH7: Ensure that there is one electronic medical record computer terminal for each mental health provider in the ITO.

The finding that behavioral health personnel reported significant declines in standards for clinical documentation is most likely related to the implementation of the electronic medical record for documentation of mental health encounters within the ITO in the past year. The standards for documentation have not changed, and the CSC units conduct monthly quality assurance medical record reviews on all providers. Many of the mental health providers in the ITO had little to no experience with use of an electronic medical record to document patient encounters prior to deployment. A four-hour training class is provided in Kuwait prior to entering the Theater and select locations in the ITO have IT support contractors, but none of the contractors have familiarity with mental health EMRs. To facilitate the use of EMR:

Recommendation TH8: Incorporate training on Theater EMR into the curriculum of the Pre-Deployment Combat and Operational Stress Control Course.

Because most active duty mental health providers have had experience using the current EMR platform (AHLTA) within the Military Healthcare System, it is important to focus additional training towards reserve CSC units who may have numerous service members without any experience with EMR.

Recommendation TH9: Provide an opportunity for additional instruction at reserve unit mobilization sites and/or Kuwait for reserve units.

Finally, to help ensure that the EMR systems in being correctly used in the ITO:

Recommendation TH10: Implement a policy for behavioral health leadership to conduct quality assistance visits at locations that have BH providers.

15.6.3 Addressing Reported Shortages of Mental Health Personnel

Behavioral health personnel in theater reported high levels of burnout relative to 2006. In addition, they reported that there were inadequate behavioral health personnel in theater. There are several possible solutions to this problem. First, providers noted that a number of professional services were being provided by civilians in the ITO, and suggested that some of the behavioral health services provided in theater (e.g., treatment) could be augmented by GS personnel or contract services. Such an action would be feasible within the Combat Support Hospitals and the clinic and fitness sites of the Combat Stress Control Units. Prior to implementing such a program, critical civilian personnel administrative issues such as duty descriptions, work hours, and performance rating structure would need to be clarified.

Recommendation PS1: Develop mechanism to fill CSC teams with GS or contracted psychologists or social workers.

Another option would be to provide an additional skill identifier to medics (68W) to allow them to be cross-trained in 68X skill areas:

Recommendation PS2: Cross-train selected 68W to allow them to augment 68X using Battlemind First-Aid.

Finally, behavioral health personnel noted that the shortage issue extends to Aviation Brigades as these units have no organic mental health assets, yet personnel in these Brigades utilize behavioral health resources.

Recommendation PS3: Upgrade the MTOE of Aviation Brigades to include a Behavioral Health Officer and Behavioral Health NCO in Aviation Brigades. Have the Behavioral Health Officer co-located with BDE (Flight) Surgeon

15.6.4 Leadership and Reducing Stigma

While the data from MHAT V show a number of significant decreases in reports of stigma, the stigma associated with receiving mental health continues to be a major barrier to care. Probably the single most important factor in reducing stigma is the behavior and attitudes of leaders.

Recommendation RS1: Have senior leaders encourage subordinate leaders at the BN and CO level to read material such as the NATO guide – "A Leader's Guide to Psychological Support Across the Deployment Cycle" – a document that recounts the experiences of a number of

senior operational leaders (as well as leaders from other Nations) in terms of providing mental health support.

A related way to help reduce stigma that emphasizes the role of the leader would be to:

Recommendation RS2: Enhance training for NCOs at the Warrior Leader Course, BNCOC and ANCOC on their role in reducing Soldier stigma through counseling & mentorship training.

A final way to reduce stigma would be to make behavioral health assets more available to Soldiers by assigning a behavioral health specialist within each Battalion to serve as a Behavioral Health Representative for unit members and have unit leadership identify the individual and the roles of the Behavioral Health Representative to unit members.

Recommendation RS4: Place one 68X or cross-trained 68W in each Battalion to serve as a unit behavioral health representative.

15.6.5 Sleep Management

As noted in section 6.5, sleep deprivation and sleep problems are an important risk factor for behavioral health and performance problems. Unlike other risk factors which may be largely unavoidable in combat settings (such as combat exposure), sleep deprivation and sleep problems are manageable either through work cycle management or medical treatment. In addition, from a mental health treatment seeking perspective, sleep problems may be an effective mechanism to help Soldiers receive care for a variety of mental health problems to include depression or acute stress because Soldiers report low stigma associated with reporting sleep problems.

Appendix F presents the Combined Arms Doctrine Directorate (CADD) on sleep management. This document provides detailed information summarizing the research on sleep deprivation and performance and provides practical guidance on sleep management.

Recommendation SLP1: Ensure leaders at all levels develop and monitor work cycle programs that provide adequate sleep time based on the Combined Arms Doctrine Directorate (CADD) on Sleep Management.

Recommendation SPL2: Ensure leaders at all levels encourage Soldiers to seek treatment for sleep problems.

Recommendation SLP3: Ensure officers know that sleep deprivation is cumulative and that their cognitive performance is highly susceptible to the effects of sleep deprivation.

Finally, while much is known about sleep, there are also large gaps in research. Three areas that continue to be important from a research perspective are:

Recommendation SP4: Conduct research on the role of sleep and sleep problems in behavioral health problems such as acute stress and PTSD.

Recommendation SP5: Conduct research on ways to unobtrusively monitor sleep and provide performance estimates for individuals and groups.

Recommendation SP6: Investigate the efficacy of sleep aids as well as agents that might be used to safely maintain performance under short-term periods of sleep deprivation.

15.6.6 Results Related to Providing Care

The results from the Soldier well-being survey have at least two key findings that have implications for the delivery of behavioral health and medical care. First, the pattern of results was such that Soldiers initially reported low levels of problems. Over time, though, the percent of Soldiers reporting nearly every mental health problem increased until tapering off near the end of the deployment. Based on these results:

Recommendation PC1: Continue to implement the MHAT-IV recommendation of focusing behavioral health resources on units in theater between six to ten months. Emphasize (a)Time-driven Battlemind debriefing after 6 months in theater for high combat exposure units and (b) Unit Behavioral Health Needs Assessments after 6 months in theater for at risk units.

The other finding that is particularly important is that reported use of inhalants appeared to be higher than rates reported by Lacy and Ditzler (2007). As with other health outcomes, the data indicated a peak in use around mid-deployment; however, unlike other health outcomes, the reported use of inhalants declined dramatically near the end of the deployment.

Recommendation PC2: Behavioral health and primary care providers need to be aware of the symptoms of inhalant abuse among Soldiers seeking care. Details on inhalants are provided in Lacy and Ditzler (2007).

15.6.7 NCOs and Multiple-Deployments

The fact that Soldiers (primarily NCOs) on multiple deployments are at increased risk for mental health problems indicates a need to target recommendations to multiple deploying NCOs. As noted in MHAT IV and MHAT III, the issue with multiple deploying Soldiers appears to be that they never have the opportunity to reset prior to returning to the combat zone.

Recommendation NCO1: Give NCOs who have deployed multiple times priority for TDA assignments.

Recommendation NCO2: Ensure NCOs (and all Soldiers) have adequate reset time. Previous research indicates that one-year dwell-time may not be adequate to reset the force.

On a related note, several Soldiers reported that a number of their NCOs had been promoted to the rank of NCO without having had the opportunity to attend Warrior Leader Course, BNCOC or ANCOC. The deployment schedules of units make it difficult to provide time for NCOs to attend leadership development courses. It is unclear whether this is a wide-spread phenomenon, therefore:

Recommendation NCO3: Determine the number NCOs who have been unable to attend required leadership courses and consider developing shortened in-theater courses that would meet the requirements.

15.6.8 Validated Training

Soldiers receive a great deal of training prior to and following deployments. In many cases, the efficacy of the training has never been validated. MHAT IV recommended that the validated Battlemind training program be implemented and many Soldiers report receiving this training.

MHAT V observed that receiving pre-deployment Battlemind appeared to help Soldier resilience therefore:

Recommendation TR1: Units should continue to implement Battlemind training across all phases of the deployment cycle. Materials for all phases are available at www.battlemind.org.

MHAT IV also noted a need to modify ethics training to make it more real. Based on the data from Soldiers in 2007, this recommendation needs continued emphasis. In focus groups, Soldiers recommended modifying training to have veteran NCOs from theater provide scenarios of the ethics dilemmas Soldiers will likely face in theater. Targeted training could also be built around the nine combat experiences that appear most related to engaging in unethical behaviors (Section 6.3.7).

Recommendation ET1: Revise and validate ethics training for Soldiers

15.6.9 Theater Suicide Prevention Program and Suicide Action Plan

MNC-I has recently revamped suicide prevention policies to adopt several best practices. However, effective mental health support is required both prior to deployment as well as following deployment during the reintegration and reset period – a comprehensive approach to deployment cycle support. Such support also requires that providers are armed with the best tools possible. Current suicide prevention products are aimed at teaching signs and symptoms of suicidal behavior, but largely ignore the major cause of suicide in Iraq -- relationship failure. Resiliency training for weathering blows of relationship failure, and tools for relationship maintenance are still inadequate. Tactical suicide prevention products are still inadequate. The cost of proprietary prevention training programs places roadblocks to training, and leads to too few properly trained personnel in key positions. Lastly, although a good technology exists for surveillance of Army suicides, surveillance technology needs to be a tri-service DOD system.

Recommendation S1: Develop a suicide prevention action plan at the operational and tactical level.

Effective Community Mental Health requires effective communication between the organic mental health provider and the command and staff of the supporting unit. Leaders need to know who the provider is, where the provider is, and have enough trust in the provider to refer. It is very important for this bonding that the support staff be present for train up with the unit prior to deployment, remain with the unit during the deployment, and stay with the unit to help with reset and reintegration. These elements of planning for support across the deployment cycle depend on trust as well as on the technical skills of the provider. Evidence suggests that if the health care providers are well-integrated into the team, they also personally fare better during the deployment and are less likely to become casualties themselves. A comprehensive deployment cycle support system also uses unit-based mental health advocates as far forward provider extenders, and integrates chaplains and primary care providers into an effective team. Training is coordinated and sensitive to the issues being faced at different phases of deployment. Many of these tenets have been integrated into the MNC-I suicide prevention plan, but will require the support of the larger Army, and particularly the staffing system. PROFIS mental health personnel, who join the unit as it is leaving and leave the unit as it is redeploying, may be less effective in their mental health mission.

Integrating ASER reporting into AHLTA and AHLTA-T would solve most of the problems the theater has experienced with accountability and quality control of suicide surveillance. As AHLTA becomes the single standard EMR for DOD, the need for a free-standing web server and separate database system becomes less apparent.

Recommendation S2: Adopt Automated Suicide Evaluation Report as DOD-level Surveillance Tool / Integrate ASER into AHLTA and AHLTA-T

ASIST, as a product, is well thought of, but is both expensive and time consuming. Even if $3,000 tuition plus TDY expenses for two weeks in Florida, per student, to train the trainer is not an issue, using such a civilian based, proprietary system under a pay per use model constrains training unacceptably—particularly for TOE units. For example, the basic level ASIST for Soldier's package still requires at minimum the purchase of a $35 workbook per student, which must be ordered and shipped before training, can occur. The chain by which an individual Battalion Chaplain in Iraq can obtain this funding and order these materials is not sufficiently easy to insure everyone who needs to be trained is trained. If ASIST continues to the product used, it needs to be site licensed to the Army so training can occur whenever and wherever needed. Nothing in ASIST is beyond the technology of the Army to develop and train in its own right and the Center for Health Promotion and Preventive Medicine (CHPPM) is working on such a product, which needs to be refined and exported to Iraq at the earliest possible date.

Recommendation S3: Replace or augment proprietary suicide prevention products (ASIST) with Army owned/no cost training packages.

The suicide prevention class currently in use by the Army has been seen repeatedly by most Soldiers, and lacks both personal relevance and attention-focusing content. By the end of a 15-month deployment, results indicate that over 30% of married junior enlisted soldiers surveyed by MHAT are intending to get a divorce or separation, and non-marital intimate relationships may be even more fragile. What is needed is a psychological resilience prevention strategy to cushion that blow, if it occurs.

Recommendation S4: Tailor suicide prevention training packages to the phase of deployment and focus on building psychological resiliency. Use real-world examples from a combat environment.

Recommendation S5: Enhance relationship Support (see section 15.6.11).

Recommendation S6: Provide a detailed instruction manual for completing the ASER.

15.6.10 Theater Concussion (mTBI) Assessment and Screening Program

Iraq is an environment in which a high percentage of casualties are blast related. Increased personal and vehicle armor shelter against many of the effects of blast except concussion. In the current sample, around 10% of junior enlisted and NCOs reported being evaluated for a concussion. Various standards are used for the evaluations necessitating a need for a quick, reliable and standardized determination of mTBI. In addition, policy from DoD on the evaluation and treatment of mTBI has not yet been published.

Recommendation TBI1: Develop consistent policies for evaluation after a concussive event and standards for return to duty.

15.6.11 Strengthening Military Families.

Homefront stress is cited as the #1 issue addressed by Mental Health providers in theater. It is a major risk factor for Soldier suicide, as well as a source of operational stress. Families do better when given adequate support.

Recommendation SMF1: Amend TRICARE rules to cover marital and family counseling as a medical benefit under TRICARE Prime.

Recommendation SMF2: Increase the number of Family Life providers to work with spouses and families.

Recommendation SMF3: Conduct research examining spouses and family well-being across the deployment cycle.

16. STATUS OF MHAT IV RECOMMENDATIONS

Note that some recommendations may appear in more than one phase of the deployment cycle.

16.1 Pre-Deployment

1. Mandate all Soldiers and Marines attend small-group PRE-deployment Battlemind Training. (FORSCOM/HQMC).

Status: Green—The Director of the Army Staff has mandated all Soldiers receive pre-deployment Battlemind Training prior to deploying.

2. Develop Battlefield ethics training based on the "Soldiers' Rules," using OIF-based scenarios so Soldiers and Marines know exactly what behaviors are acceptable on the battlefield and the exact procedures for reporting violations. (TRADOC/TECOM)

Status: Amber—The US Army Training and Doctrine Command and the Army Judge Advocate General are currently revising their training.

3. Ensure all behavioral health personnel and chaplains (regardless of service) are proficient in Combat Stress Doctrine by mandating that they complete the AMEDD Combat and Operational Stress Control Course prior to deploying to the OIF theater. This training should be required for CSC/OSCAR teams and division/brigade personnel. *(Lead: OTSG & AMEDD/OPNAV 093 & BUMED)*

Status: Amber—MHAT V Behavioral Health Provider data showed that many more BH personnel are attending the course. However, there is no formal mandate; it is strongly recommended as best practices training for Active Duty Army, the Reserve Component, sister Services, and Chaplains. Due to the increasing degree in which BH is multi-service in the ITO, it is imperative that BH personnel are familiar with a common training platform.

4. Revise and field suicide awareness and prevention training so that it focuses on specific actions Soldiers/Marines (self-aid and buddy aid) and leaders can take in helping fellow unit members. Use real-world examples from a combat environment. *(Lead Army G-1/BUPERS)*

Status: Amber – The US Army Medical Department Center and School in conjunction with the Army G1 and the US Army Training and Doctrine Command are currently revising the Suicide Prevention Program and buddy and leader training.

16.2 Deployment

5. Re-evaluate the in-theater R&R policy to ensure that Soldiers (and Marines) who work primarily outside the basecamps/FOBs receive in-theater R&R, to include reducing the actual travel time to and from the R&R site. (MNF-I J-3 & J-1)

Status: Red—No specific action taken. The MHAT V Soldier Survey data indicate that that twice as many Soldiers are taking in-theater R & R than last year.

6. Develop standardized procedures for conducting Battlemind Psychological Debriefings to replace Critical Event Debriefings and Critical Incident Stress Debriefings following deaths, serious injuries and other significant events. (MNF-I Surgeon & MRMC/OPNAV & NMRC)

Status: Green—The Walter Reed Army Institute of Research (WRAIR) has developed Battlemind Psychological Debriefing standardized training that is being taught at the COSC Course and is being used by BH personnel in the ITO.

7. Develop interventions to reduce the impact of combat and deployment length on the mental health and well-being of Soldiers/Marines. (MNF-I Surgeon & MRMC/OPNAV & NMRC)

Status: Green—WRAIR continues behavioral health research prevalence and intervention studies aimed at reducing mental health problems of Soldiers across the deployment cycle (e.g., Battlemind Psychological Debriefing, Expressive Writing). Operationally, (b)(2) (b)(2) **Behavioral Health personnel are focusing outreach on units that have been in-theater more than six months. MHAT V Soldier Survey data further underscores the importance of the 6-12 month timeframe for when Soldiers are most susceptible to behavioral health problems.**

8. Standardize basecamp and FOB rules to eliminate those rules that don't pertain to combat readiness, avoiding the establishment of garrison-like standards. (MNF-I CSM)

Status: Red—No action taken. MHAT V Soldier focus groups cited that this was still a frustration of many Soldiers.

9. Provide far-forward behavioral health care outreach at the location of the Transition Team. (3rd MEDCOM/CSC Teams)

Status: Amber—(b)(2) **BH personnel are providing care to transition teams. Focus group interviews with transition teams confirmed that this is occurring. This is partly influenced by the fact that a number of transition teams live on FOBs and "convoy/commute" to their transition team duties. Logistically, it remains a challenge and one that needs to be paid attention to when medical assets RIP-TOA.**

10. Establish a scope of practice policy for all CSC personnel and monitor for compliance, delineating the levels of prevention, treatment and intervention activities for each specialty. *(Lead: AMEDD C&S/Naval Medical Education and Training Command)*

Status: Red—No action taken

11. Ensure at least one behavioral health (BH) person (officer or enlisted) per 1,000 service members. Increase BH support to (b)(2) to meet the "Golden Rule" for BH staffing. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Amber—Overall, the ITO BH staffing ratio is 1:734. (b)(2) **has tri-service BH support. When multi-service BH personnel are taken into account, the current staffing ratio for Army & Navy BH personnel to Soldiers/Marines in** (b)(2) **is 1:1,426. It should be pointed out that the ratio may be lower; Air Force data on BH personnel placement in** (b)(2) **were not available.**

12. Focus behavioral health outreach on units that have been in theater longer than six months. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—(b)(2) Behavioral Health personnel are focusing outreach on units that have been in-theater more than six months. MHAT V Soldier Survey data further underscores the importance of the 6-12 month timeframe for when Soldiers are most susceptible to behavioral health problems.

13. Develop and execute a behavioral health care outreach plan to ensure all transition team members receive care. Consider dedicating BH assets that provide BH support at the transition team's location. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Amber—(b)(2) BH personnel are providing care to transition teams. Focus group interviews with transition teams confirmed that this is occurring. This is partly influenced by the fact that a number of transition teams live on FOBs and "convoy/commute" to their transition team duties, making it easier to provide care. Logistical challenges remain in conducting outreach at transition team locations but are being reviewed for action.

14. Immediate: Mandate all CSC and Division/Brigade BH personnel complete COSC-WAR reports. *(Lead: MNF-I Surgeon)* Long-term: Develop a joint theater-wide mental health and suicide surveillance system for Soldiers, Marines, Sailors, and Airman (possibly include DoD civilians). *(DoD)*

Status: Amber—(b)(2) and one of the regions' organic mental health assets have been using COSC-WARS. An MNC-I level FRAGO has been issued to mandate all mental health assets in the ITO report workload data via COSC-WARS. A joint theater-wide suicide surveillance system is currently being explored with subject matter experts in CONUS and the ITO.

15. Implement an in-theater BH Chart Review process. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—(b)(2) has a BH Chart Review process in place. A FRAGO has been published for disposition closed paper mental health charts in an effort to make the information available to redeployed Service Members.

16. Conduct periodic in-theater training seminars (bi-annual) to ensure BH best practices and to identify/discuss solutions to emerging BH issues. Include 68Xs in these training seminars. *(Lead: 3rd MEDCOM)*

Status: Green—(b)(2) BH hosted an ITO BH conference with continuing education credits offered in September 2007 with 70 attendees. The Theater Mental Health Consultant will ensure conferences continue.

17. Execute a BH Command Inspection Program. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—(b)(2) has an Active BH Inspection Program.

18. Share Soldier/Marine mental health information with commanders in the same manner and detail as information about a wounded Soldier/Marine is shared. Provide a medical profile

detailing the extent of the mental health injury, prognosis, and any restrictions/limitations on what the Soldier/Marine can and cannot do. (MEDCOM/OPNAV 093)

Status: Green—An important aspect within the job description of a military mental health provider is the ability to balance patient privacy with the needs of the military mission. Mental health providers within the ITO are well aware of this issue and provide Commanders with "need to know" information regarding Service Members treatment plans and duty limitations. The "dual agency" issue was discussed at the September 2007 (b)(6) Mental Health Conference.

19. Target BH support for Soldiers/Marines with relationship concerns following mid-tour leave and prior to re-deploying home. (CSC/Brigade Mental Health)

Status: Amber—These issues were mentioned often by BH personnel and Soldiers during MHAT V. It is unclear if there is any formal targeted support other than best practices.

20. Sustain the MNF-I Suicide Prevention Committee, chaired by the senior theater medical officer. *(Lead: MNF-I Surgeon)*

Status: Green—The MNF-I Suicide Prevention Committee continues. In addition, there is now an MNC-I level committee which includes senior regional leadership.

21. Expand the MNF-I Suicide Prevention Committee to include operational commanders and senior NCOs. *(Lead: MNF-I Surgeon)*

Status: Green—The MNC-I includes operational command staff.

22. Establish an in-theater review process of all ASERs before submitting to SRMSO to ensure that an ASER is required, and that the ASER is accurate. *(Lead: 3rd MEDCOM; MNF-I Surgeon)*

Status: Green—Completed. An October 2007 FRAGO stipulated that the theater mental health consultant is copy furnished each ASER.

23. Establish a joint tracking system for the deployed environment to monitor suicides, mental health evacuations and the use of mental health/CSC services. *(Lead: DoD)*

Status: Amber—Being addressed by HQDA Suicide Assessment Team.

16.3 Post Deployment/Reconstitution

24. Mandate all Soldiers and Marines receive small group POST-deployment Battlemind Training. (FORSCOM/HQMC)

Status: Green—The Director of the Army Staff has mandated that all Soldiers receive Post-deployment Battlemind Training upon return from operational deployment.

25. Develop interventions to reduce the impact of combat and deployment length on the mental health and well-being of Soldiers/Marines. (MNF-I Surgeon & MRMC/OPNAV & NMRC)

Status: Green—WRAIR continues behavioral health research prevalence and intervention studies aimed at reducing mental health problems of Soldiers across the deployment cycle (e.g., Battlemind Psychological Debriefing, Expressive Writing). Operationally, (b)(6) (b)(2) Behavioral Health personnel are focusing outreach on units that have been in-theater more than six months. MHAT V Soldier Survey data further underscores the importance of the 6-12 month timeframe for when Soldiers are most susceptible to behavioral health problems.

26. Publish a policy that ensures Soldiers/Marines are able to access mental health care during the duty day. (DoD)

Status: Amber—Medical and operational Leadership are aggressively addressing the issue of mental health stigma and barriers to care. No formal policy has yet been published.

27. Share Soldier/Marine mental health information with commanders in the same manner and detail as information about a wounded Soldier/Marine is shared. Provide a medical profile detailing the extent of the mental health injury, prognosis, and any restrictions/limitations on what the Soldier/Marine can and cannot do. (MEDCOM/OPNAV 093)

Status: Green—An important aspect within the job description of a military mental health provider is the ability to balance patient privacy with the needs of the military mission. Mental health providers within the ITO are well aware of this issue and provide Commanders with "need to know" information regarding Service Members treatment plans and duty limitations. The "dual agency" issue was discussed at the September 2007 (b)(2) Mental Health Conference.

16.4 Sustainment

28. Educate and train junior NCOs and officers in the important role they play in maintaining Soldier/Marine mental health and well-being by including behavioral health awareness training in ALL junior leader development courses, beginning with the Warrior Leader Course (WLC) and the Officer Basic Course (OBC). (TRADOC/TECOM)

Status: Green—TRADOC, AMEDDC&S, and WRAIR are developing new junior leader training.

29. Revise the combat experiences scale to include "sniper attacks." (WRAIR/Future MHATs)

Status: Green—Complete; assessed in MHAT V

30. Extend the interval between deployments to 18-36 months or decrease deployment length to allow additional time for Soldiers to re-set following a one-year combat tour. (HQ DA/HQMC) Assess the optimal time for Soldiers/Marines to "reset" their mental health and well-being. (HQ DA/HQMC & MEDCOM/MRMC)

Status: Red—no action taken

31. Publish a policy that ensures Soldiers/Marines are able to access mental health care during the duty day. (DoD)

Status: Amber—Medical and operational Leadership are aggressively addressing the issue of mental health stigma and barriers to care. No formal policy has yet been published.

32. Incorporate battlefield ethics in all behavioral health counseling. (MEDCOM & OPNAV 093)

Status: Green—Battlefield ethics issues have been incorporated into the AMEDD COSC and into the Battlemind Psychological Debriefing program developed by WRAIR.

33. Include battlefield ethics in all anger management classes, especially training. (MEDCOM & OPNAV 093)

Status: Green— Battlefield ethics issues have been incorporated into the AMEDD COSC Course.

34. Establish a scope of practice policy for all CSC personnel and monitor for compliance, delineating the levels of prevention, treatment and intervention activities for each specialty. *(Lead: AMEDD C&S/Naval Medical Education and Training Command)*

Status: Red—no action taken

35. Revise the Unit Mental Health Needs Assessment to provide specific actions for behavioral health personnel to take based on the unit needs assessment to improve the mental health of the unit. *(Lead: MRMC)*

Status: Red—no action taken

36. Include training in using the Unit Mental Health Needs Assessment in the revised CSC Course. *(Lead: AMEDD C&S)*

Status: Green—Completed

37. Incorporate COSC-WARS training into the CSC course. *(Lead: AMEDD C&S)*

Status: Green—Completed

38. Develop a user friendly data analyses routine for reporting COSC-WARS findings. *(Lead: AMEDD C&S)*

Status: Green—An upgrade of COSC-WARS is complete. Proponent was (b)(2) (b)(2)

39. Immediate: Mandate all CSC and Division/Brigade BH personnel complete COSC-WAR reports. *(Lead: MNF-I Surgeon)* Long-term: Develop a joint theater-wide mental health and suicide surveillance system for Soldiers, Marines, Sailors, and Airman (possibly include DoD civilians). *(DoD)*

Status: Amber—(b)(2) **and one of the regions' organic mental health assets have been using COSC-WARS. An MNC-I level FRAGO has been issued to mandate all mental health assets in the ITO report workload data via COSC-WARS. A joint theater-**

wide suicide surveillance system is currently being explored with subject matter experts in CONUS and the ITO.

40. Establish a central repository for all COSC-WARS data collected. *(Lead: USACHPPM)*

Status: Red—no action taken

41. Establish and maintain a COSC web-site as a means to obtain reference and training material (especially important for 68Xs serving in a deployed environment). *(Lead: AMEDD C&S/Naval Medical Education and Training Command)*

Status: Amber—website created, coordination being finalized with AMEDDC&S, OTSG, & WRAIR.

42. Share Soldier/Marine mental health information with commanders in the same manner and detail as information about a wounded Soldier/Marine is shared. Provide a medical profile detailing the extent of the mental health injury, prognosis, and any restrictions/limitations on what the Soldier/Marine can and cannot do. (MEDCOM/OPNAV 093)

Status: Green—An important aspect within the job description of a military mental health provider is the ability to balance patient privacy with the needs of the military mission. Mental health providers within the ITO are well aware of this issue and provide Commanders with "need to know" information regarding Service Members treatment plans and duty limitations. The "dual agency" issue was discussed at the September 2007 (b)(2) Mental Health Conference.

43. Provide a detailed instruction manual for completing the ASER. *(Lead: MEDCOM; SRMSO)*

Status: Red—No action taken.

44. Update/modify the ASER so that it meets the needs of a deployed force. Ensure that the ASER committee members have practical and recent deployment experience. Ensure all modifications to the ASER facilitate the development of prevention activities in both a garrison and deployed environment. (*Lead*: AMEDD)

Status: Green—Completed; has been modified for 2007

45. Establish a joint tracking system for the deployed environment to monitor suicides, mental health evacuations and the use of mental health/CSC services. *(Lead: DoD)*
Integrate existing tracking systems for a joint process.

Status: Red—no action taken

46. Establish a quality control process that ensures both internal (e.g., no duplicates) and external (completed suicides in the ASER database match those in the AFME database) validity. *(Lead: MEDCOM; SRMSO)*

Status: Amber—Currently being done by (b)(2) but not completely formalized yet.

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18. APPENDIX A: FRAGO

(b)(5)

(b)(5)

19. APPENDIX B: DATA HANDLING

(b)(5)

(b)(5)

20. APPENDIX C: COMBAT EXPERIENCES (UNADJUSTED PERCENTS)

Combat Experiences	MHAT IV 2006	MHAT V 2007
Being attacked or ambushed.	60.9%	51.7%
Seeing destroyed homes and villages.	61.1%	61.1%
Receiving small arms fire.	60.8%	57.7%
Seeing dead bodies or human remains.	57.4%	60.2%
Handling or uncovering human remains.	27.8%	32.7%
Witnessing an accident which results in serious injury or death.	37.3%	35.2%
Witnessing violence within the local population or between ethnic groups.	33.8%	35.4%
Seeing dead or seriously injured Americans.	41.7%	48.7%
Knowing someone seriously injured or killed.	65.9%	72.1%
Participating in demining operations.	22.4%	20.6%
IED/Booby trap exploded near you.	60.8%	48.5%
Working in areas that were mined or had IEDs.	67.7%	59.8%
Having hostile reactions from civilians.	51.2%	43.7%
Disarming civilians.	28.4%	30.9%
Being in threatening situations where you were unable to respond because of the ROE.	46.4%	37.2%
Shooting or directing fire at the enemy.	39.1%	35.8%
Calling in fire on the enemy.	9.1%	11.7%
Engaging in hand-to-hand combat.	3.6%	4.5%
Clearing/searching homes or buildings.	40.6%	47.4%
Clearing/searching caves or bunkers.	16.0%	15.3%
Witnessing brutality/mistreatment toward non-combatants.	10.4%	12.3%
Being wounded/injured.	8.8%	10.5%
Seeing ill/wounded women and children who you were unable to help.	33.6%	32.0%
Receiving incoming artillery, rocket or mortar fire.	82.8%	78.4%
Being directly responsible for the death of an enemy combatant.	12.9%	13.1%
Observing abuse of Laws of War/Geneva Convention.	7.1%	6.2%
Being responsible for the death of US or ally personnel.	1.3%	1.8%
Having a member of your unit become a casualty.	53.0%	55.6%
Had a close call, dud landed near you.	28.6%	25.3%
Had a close call, equipment shot off your body.	3.9%	4.2%
Had a close call, was shot or hit but protective gear saved you.	5.8%	6.2%
Had a buddy shot or hit who was near you.	12.8%	15.1%
Informed unit members/friends of a Service Member's death.	10.8%	13.5%

21. APPENDIX D: PROVIDER SURVEY NON-SIGNIFICANT RESULTS

Table of Non-Significant Results from the Behavioral Health Personnel Survey

	MHAT IV	MHAT V	p = .05
STANDARD OF CLINICAL CARE (Agree or Strongly Agree)			
The standards for record management are clear.	41%	43%	NS
COORDINATION OF SERVICES (Agree or Strongly Agree)			
We coordinate/integrate our BH/COSC activities with the Unit Ministry Teams in our Area of Operations.	57%	63%	NS
We coordinate/integrate our BH/COSC activities with the primary care (PC) medical personnel in our AO.	76%	77%	NS
COMBAT AND OPERATIONAL STRESS (Agree or Strongly Agree)			
During this deployment how frequently did you:			
Consult with unit leaders (regarding mental health issues) weekly?	60%	65%	NS
Conduct systematic unit needs assessments at least 1/ every 2-3 months.	35%	41%	NS
WELL-BEING (Agree or Strongly Agree)			
Your level of burnout high.	27%	33%	NS
CONFIDENCE IN SKILLS AND TRAINING (Agree or Strongly Agree)			
Help Service Members adapt to the stressors of combat/deployment.	98%	93%	NS
Evaluate and manage Service Members with suicidal thoughts/behaviors.	93%	92%	NS
Evaluate and treat combat and Operational Stress Reaction.	98%	94%	NS
Evaluate and treat Acute Stress Disorder/PTSD.	86%	86%	NS
DOING THEIR JOB			
Develop a BH COSC unit prevention and early intervention plan. (Frequently/Always)	44%	49%	NS
Commanders support bh provider recommendations for medevac out of theatre. (Frequently/Always)	50%	43%	NS
Commanders respect patient confidentiality when it comes to mental health issues.(Frequently/Always)	44%	49%	NS
The supported units leadership does not support BH/COSC activities.(Agree/Strongly Agree)	11%	12%	NS
There is inadequate transportation to conduct outreach services. (Agree/Strongly Agree)	26%	32%	NS

Table of Non-Significant Results from the Primary Care Survey

	MHAT IV	MHAT V	p = .05
STANDARD OF CLINICAL CARE (Agree or Strongly Agree)			
The standards for clinical documentation are clear.	59%	67%	NS
The standards for medical care in this theatre are clear.	61%	71%	NS
The standards for records management in this theatre are clear.	49%	57%	NS
The standards of mental health (BH) care (services) are clear.	65%	62%	NS
The standards for transferring BH information between levels of care in this theare are clear.	38%	38%	NS
COORDINATION OF SERVICES (Agree or Strongly Agree)			
We coordinate/integrate our BH/COSC activities with the Unit Ministry Teams in our Area of Operations.	40%	49%	NS
We coordinate/integrate our BH/COSC activities with the behavioral health (BH) personnel in our AO.	58%	65%	NS
COMBAT AND OPERATIONAL STRESS (Agree or Strongly Agree)			
During this deployment how frequently did you:			
Consult with unit leaders (regarding mental health issues) weekly?	9%	15%	NS
WELL-BEING (Agree or Strongly Agree)			
My mental well being has been adversly affected by the events I have witnessed on this deployment.	29%	24%	NS
Your level of morale is high.	28%	35%	NS
Your level of burnout high.	43%	35%	NS
CONFIDENCE IN SKILLS AND TRAINING (Agree or Strongly Agree)			
Help Service Members with a mental health problem.	75%	71%	NS
Evaluate and treat combat and Operational Stress Reaction.	59%	61%	NS
Evaluate and treat Acute Stress Disorder/PTSD.	49%	55%	NS
PSYCH MEDS (Percent Yes)			
Level I Battalion Aid Station.	66%	68%	NS
Level II Forward Support Medical Company.	88%	89%	NS
Level III Combat Support Hospital.	96%	94%	NS

Table of Non-Significant Results from the Unit Ministry Survey

	MHAT IV	MHAT V	p = .05
RESOURCES FROM COMMAND (Agree or Strongly Agree)			
My higher HQ (command) provides us with the resources required to conduct our mission.	72%	82%	NS
My chaplain chain of command provides us the resources required to conduct our mission.	87%	87%	NS
COORDINATION OF SERVICES (Agree or Strongly Agree)			
We coordinate/integrate our UMT activities with BH/COSC in our Area of Operations.	49%	55%	NS
We coordinate/integrate our UMT activities with the primary care medical personnel in our AO.	71%	70%	NS
UMT ACTIVITIES (Frequency of Event)			
During this deployment how frequently did you:			
Conduct suicide prevention training (every 2-3 months).	83%	84%	NS
Identify Soldiers for battle fatigue (monthly).	50%	62%	NS
Conduct grief facilitation and counciling (monthly).	70%	61%	NS
reinforce soldiers faith and hope (weekly).	82%	83%	NS
Consult with unit leaders regarding Soldier mental health issues & well-being (weekly).	74%	83%	NS
WELL-BEING (Agree or Strongly Agree)			
My ability to do my job is impaired by the stressors of depolyment/combat.	12%	11%	NS
My spiritual well being has been adversely affected by the events I have witnessed on this deployment	12%	17%	NS
My mental well being has been adversly affected by the events I have witnessed on this deployment.	12%	12%	NS
Your level of motivation is high.	50%	58%	NS
Your level of burnout is high.	25%	25%	NS
Your level of morale is high.	65%	58%	NS
CONFIDENCE IN TRAINING & SKILLS (Agree or Strongly Agree)			
Help Service Members adapt to the stressors of combat/deployment.	92%	93%	NS
Identify and assist Soldiers with suicidal thoughts/behaviors.	92%	95%	NS
Conduct (identify and assist individuals with) suicide (thoughts) prevention classes/training for Service Members.	91%	94%	NS
Identify Service members with Combat and Operational Stress Reactions.	91%	90%	NS
DOING THEIR JOB			
Conduct focus groups with service members (Frequently or Allways).	25%	36%	NS
Develop a religious support plan (Frequently or Allways).	75%	86%	NS
Talk informally to soldiers/service members (Frequently or Allways).	92%	96%	NS
Talk with BH COSC personnel (Frequently or Allways).	44%	52%	NS
There is inadequate transportation to conduct religious activities (Agree or Stongly Agree).	30%	27%	NS
Traveling to supported units is to dangerous (Agree or Stongly Agree).	8%	7%	NS

22. APPENDIX E: SUICIDE ANALYSIS 2007

1. ASSESSMENT ANALYSIS:

3. SCOPE OF SURVEY: This analysis was based upon data collected between I Jan 07 and 30 Sep 07, by (b)(2) (b)(2) (CID) pertaining to criminal investigative information of suicides that include deployed Soldiers in support or OIF.

4. INTELLIGENCE COLLECTION DETAILS:

Between I Jan 07 and 30 Sep 07, there were a total of 25 death investigations, with 19 confirmed suicides and 6 which are currently listed as undetermined; however, are suspected suicides. The following Reports of Investigation (ROI) were part of this survey:

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

23. APPENDIX F: SLEEP MANAGEMENT

Sleep Deprivation

This sleep guidance is provided by the Walter Reed Army Institute of Research, and supported by extensive research. This guidance is based on current research as of September, 2007. Unit sleep plans should be based on this guidance.

OVERVIEW

A-1. Sleep is a biological need, critical for sustaining the mental abilities needed for success on the battlefield. Soldiers require 7 to 8 hours of good quality sleep every 24-hour period to sustain operational readiness. Soldiers who lose sleep will accumulate a *sleep debt* over time that will seriously impair their performance. The only way to *pay off* this debt is by obtaining the needed sleep. The demanding nature of military operations often create situations where obtaining sleep may be difficult or even impossible for more than short periods. While essential for many aspects of operational success, sheer determination or willpower cannot offset the mounting effects of inadequate sleep.

A-2. Therefore, sleep should be viewed as being as critical as any logistical item of resupply, like water, food, fuel, and ammunition. Commanders need to plan proactively for the allocation of adequate sleep for themselves and their subordinates.

A-3. Individual and unit military effectiveness is dependent upon initiative, motivation, physical strength, endurance, and the ability to think clearly, accurately, and quickly. The longer a Soldier goes without sleep, the more his thinking slows and becomes confused, and the more mistakes he will make. Lapses in attention occur and speed is sacrificed in an effort to maintain accuracy. Degradation in the performance of continuous work is more rapid than that of intermittent work.

A-4. Tasks such as requesting fire, integrating range cards, establishing positions, and coordinating squad tactics are more susceptible to sleep loss than well-practiced, routine physical tasks such as loading magazines and marching. Without sleep, Soldiers can perform the simpler and/or clearer tasks (lifting, digging, and marching) longer than more complicated tasks requiring problem-solving, decision-making, or sustained vigilance. For example, Soldiers may be able to accurately aim their weapon, but not select the correct target. Leaders should look for erratic or unreliable task performance and declining planning ability and preventive maintenance not only in subordinates, but also in themselves as indicators of lack of sleep

A-5. In addition to declining military performance, leaders can expect changes in mood, motivation, and initiative as a result of inadequate sleep. Therefore, while there may be no outward signs of sleep deprivation, Soldiers may still not be functioning optimally.

SLEEPING IN THE OPERATIONAL ENVIRONMENT

A-6. For optimal performance and effectiveness, 7 to 8 hours of good quality sleep per 24 hours is needed. As daily total sleep time decreases below this optimum, the extent and rate of performance decline increase.

A-7. Basic sleep scheduling information for planning sleep routines during all activities (predeployment, deployment, precombat, combat, and postcombat) is provided in Table A-1. Basic sleep environment information and other related factors are provided in Table A-2.

Table A-1. Basic sleep scheduling factors

FACTOR	*EFFECT*
Timing of Sleep Period	• Because of the body's natural rhythms (called "circadian" rhythms), the best quality and longest duration sleep is obtained during nighttime hours (2300-0700). • These rhythms also make daytime sleep more difficult and less restorative, even in sleep-deprived Soldiers. • Advancing sleep times (such as earlier in the evening) impairs the ability to fall and stay asleep. • This is why eastward travel across time zones initially produces greater deficits in alertness and performance than westward travel.
Duration of Sleep Period	• **IDEAL** sleep period equals 7 to 8 hours of continuous and uninterrupted nighttime sleep each and every night. • **MINIMUM** sleep period—There is no minimum sleep period. Anything less than 7 to 8 hours per 24 hours will result in some level of performance degradation.
Napping	• Although it is preferable to get all sleep over one sustained 7 to 8 hour period, sleep can be divided into two or more shorter periods to help the Soldier obtain 7 to 8 hours per 24 hours. Example: 0100-0700 hours plus nap 1300-1500 hours. • Good nap zones (when sleep onset and maintenance is easiest) occur in early morning, early afternoon, and nighttime hours. • Poor nap zones (when sleep initiation and maintenance is difficult) occur in late morning and early evening hours when the body's rhythms most strongly promote alertness. • Sleep and *rest* are not the same. While *resting* may briefly improve the way the Soldier feels, it does not restore performance the way sleep does. • There is no such thing as *too much sleep*—mental performance and alertness always benefit from sleep. • Napping and sleeping when off duty are not signs of laziness or weakness. They are indicative of foresight, planning, and effective human resource management.
Prioritize Sleep Need by Task	• **TOP PRIORITY** is leaders making decisions critical to mission success and unit survival. Adequate sleep enhances both the speed and accuracy of decision-making. • **SECOND PRIORITY** is Soldiers who have guard duty, who are required to perform tedious tasks such as monitoring equipment for extended periods, and those who judge and evaluate information. • **THIRD PRIORITY** is Soldiers performing duties involving only physical work.
Individual Differences	• Most Soldiers need 7 to 8 hours of sleep every 24 hours to maintain optimal performance. • Most leaders and Soldiers underestimate their own total daily sleep need and fail to recognize the effects that chronic sleep loss has on their own performance.

Table A-2. Basic sleep environment and related factors

Ambient Noise	• A quiet area away from intermittent noises/disruptions is **IDEAL**. • Soldiers can use earplugs to block intermittent noises. • Continuous, monotonic noise (such as a fan or *white noise*) also can be helpful to mask other environmental noises.
Ambient Light	• A completely darkened room is **IDEAL**. • For Soldiers trying to sleep during daytime hours, darken the sleep area to the extent possible. • Sleep mask/eye patches should be used if sleep area cannot be darkened.
Ambient Temperature	• Even small deviations above or below comfort zone will disrupt sleep. • Extra clothing/blankets should be used in cold environments. • Fans in hot environments (fan can double as source of white noise to mask ambient noise) should be used.
Stimulants (Caffeine, Nicotine)	• Caffeine or nicotine use within 4 to 6 hours of a sleep period will disrupt sleep and effectively reduce sleep duration. • Soldier may not be aware of these disruptive effects.
Prescription Sleep-Inducing Agents (such as: Ambien®, Lunesta®, and Restoril®)	• Sleep inducers severely impair Soldiers' ability to detect and respond to threats. • Sleep inducers should not be taken in harsh (for example, excessively cold) and/or unprotected environments. • Soldiers should have *nonwork* time of at least 8 hours after taking a prescribed sleep inducer.
Things That do not Improve or Increase Sleep	• Foods/diet—no particular type of diet or food improves sleep, but hunger and thirst may disrupt sleep. • Alcohol induces drowsiness but actually makes sleep worse and reduces the duration of sleep. • Sominex®, Nytol®, melatonin, and other over-the-counter sleep aids induce drowsiness but typically have little effect on sleep duration and are, therefore, of limited usefulness. • Relaxation tapes, music, and so forth may help induce drowsiness but they do not improve sleep.

MAINTAINING PERFORMANCE DURING SUSTAINED OPERATIONS/CONTINUOUS OPERATIONS

A-8. Cold air, noise, and physical exercise may momentarily improve a Soldier's feeling of alertness, but they do not improve performance.

A-9. The only countermeasures that effectively improve performance during sleep loss are stimulants (caffeine and prescription stimulants including Dexedrine® and Provigil®). However, these countermeasures are only effective in restoring performance for short periods (2 to 3 days), and they do not restore all aspects of performance to normal levels. Caffeine is just as effective as the prescription stimulants.

CAFFEINE COUNTERMEASURE

A-10. Pharmacological countermeasures such as caffeine are for **short-term use only (2 to 3 days) and do not replace sleep**.

A-11. Caffeine occurs in varying content in a number of drinks, gums, and nonprescription stimulants:

- 12 ounces (oz) caffeinated soda: 40 to 55 mg.
- No-Doz®: 1 tablet: 100 mg.
- Vivarin®: 1 tablet/caplet: 200 mg.
- Caffeine gum (StayAlert®): 1 piece: 100 mg.
- Jolt® cola: 71 mg.
- Red Bull® Energy Drink (8.3 oz): 80 mg.

Note: liquids will increase urine output, which may result in interrupted sleep. To avoid this, caffeine should be ingested in pill, tablet, or other nonliquid forms.

A-12. Sleep loss effects are most severe in the early morning hours (0600—0800). Countermeasures against sleep loss, such as caffeine, are often required and are very effective during this early morning lull.

A-13. Table A-3 below summarizes advice on using caffeine to maintain performance when there is no opportunity for sleep. Clock times provided are approximate and can be adapted to individual circumstances.

Table A-3. Using caffeine under various conditions of sleep deprivation

Condition Under Which Caffeine Is Used	*Guidelines for Use*
Sustained Operations (No Sleep)	• 200 milligrams (mg) starting at approximately midnight. • 200 mg again at 0400 hours and 0800 hours, if needed. • Use during daytime hours only if needed. • Repeat for up to 72 hours.
Night Shifts with Daytime Sleep	• 200 mg starting at start of nighttime shift. • 200 mg again 4 hours later. • Last caffeine dose: No sooner than 6 hours before sleep (for example, last dose at 0400 hours if daytime sleep is anticipated to commence at 1000 hours).
Restricted Sleep	• 200 mg upon awakening. • 200 mg again 4 hours later. • Last caffeine dose: No sooner than 6 hours before sleep.

Sleep Recovery

A-14. Ultimately, the Soldier must be allowed recovery sleep. Following a single, acute (2 to 3 days) total sleep loss, most Soldiers will usually recover completely if allowed a 12-hour recovery sleep period, preferably during the night.

A-15. Following chronic, restricted sleep during continuous operations, Soldiers may need several days of 7 to 8 hours nightly sleep to fully recover.

Work Schedules

A-16. Usual work schedules are 8 hours on/16 hours off. Sixteen hours off allows enough time to attend to maintenance duties, meals, personal hygiene, and so forth, while still obtaining 7 to 8 hours of sleep.

A-17. To the extent possible, commanders should attempt to consolidate their own and Soldiers' off-duty time into a single, long block to allow maximum sleep time. If the usual 8 hours on/16 hours off schedule are not possible, the next best schedule is 12 hours on/12 hours off. In general, 12 hours on/12 hours off is superior to 6 hours on/6 hours off, and 8 hours on/16 hours off is superior to 4 hours on/8 hours off. This is true because time off is consolidated into a single, longer block.

A-18. **On/off shifts should total 24 hours**. Shifts that result in shorter or longer *days* (such as 6 hours on/12 hours off—an 18-hour day) will impair Soldier alertness and performance.

NIGHT SHIFT WORK

A-19. In general, Soldiers will not adapt completely to night shift work, even if they are on a fixed night shift.

A-20. To protect Soldiers' daytime sleep, the commander should not attempt to schedule briefings, meals, and Soldiers' routine maintenance duties during the Soldiers' sleep time.

A-21. Caffeine can be used during the night shift to improve performance.

A-22. Morning daylight exposure in night shift workers coming off shift should be avoided by wearing sunglasses from sunrise until the Soldier commences daytime sleep.

TIME ZONE TRAVEL

A-23. Trying to *preadapt* sleep and performance to a new time zone by changing sleep/wake schedules ahead of time to fit the new time zone is of little benefit.

A-24. During travel, Soldiers should not be awakened for meals (for example, while in flight to a new location). This sleep time should be protected.

A-25. After deploying to a new time zone, sleep and performance will not adapt for several days. During this time, Soldiers might also experience gastrointestinal disturbances and find it difficult to fall asleep and stay asleep at night.

A-26. When reaching the new time zone, Soldiers should—

- **Immediately conform to the new time zone schedule (**for example, for those on day work, sleep only at night).
- **Avoid daytime naps**. Sleeping during the day will make it more difficult to sleep that night and to adapt to the new time zone.
- **Use caffeine during the day** (morning and only through early afternoon) to help maintain performance and alertness.
- **Stay on a fixed wake-up and lights-out schedule, t**o the extent possible.

SPECIFIC SLEEP LOSS EFFECTS

A-27. Sleep loss makes the Soldier more susceptible to falling asleep in an environment with little stimulation (such as guard duty, driving, or monitoring of equipment). This is especially important when considering tasking sleep deprived Soldiers for guard duty during evening and early morning shifts. Leaders should be aware that putting Soldiers on guard duty who are sleep deprived or in a sleep deficit places those Soldiers at high risk of falling asleep while conducting this mission-critical duty. Commanders should consider the level of their Soldiers' sleep deprivation when establishing guard duty rosters. When significant sleep loss exits, leaders should consider altering the length of duty or manning guard posts with *teams* of two or more to maximize security efforts.

A-28. Even in high tempo environments, sleep loss directly impairs complex mental operations such as (but not limited to)—

- **Orientation with friendly and enemy forces** (knowledge of the squad's location).
- **Maintaining camouflage, cover, and concealment**
- **Coordination and information processing** (coordinating firing with other vehicles and dismounted elements).
- **Combat activity** (firing from bounding vehicle, observing the terrain for enemy presence).
- **Force preservation and regrouping** (covering disengaging squads and conducting reconnaissance).

- **Command and control activity** (directing location repositioning, directing mounted defense, or assigning fire zones and targets).

A-29. Soldiers suffering from sleep loss can perform routine physical tasks (for example, loading magazines and marching) longer than more complex tasks (for example, requesting fire and establishing positions), but, regardless of the Soldier's motivation, the performance of even the simplest and most routine task will eventually be impaired.

A-30. With long-term (weeks, months) chronic sleep restriction, mood, motivation, and initiative decline. The Soldier may neglect personal hygiene, fall behind on maintaining equipment, be less willing to work or less interested in work, and show increased irritability or negativity.

A-31. Sleep-deprived commanders and Soldiers are poor judges of their own abilities.

A-32. Sleep loss impairs the ability to *quickly* make decisions. This is especially true of decisions requiring ethical judgment. If given enough time to think about their actions, Soldiers will tend to make the same decision when sleep deprived that they would make when fully rested. However, when placed in a situation in which a snap judgment needs to be made, such as deciding to fire on a rapidly approaching vehicle, sleep deprivation may negatively impact decision making.

Determining Sleep Loss in the Operational Environment

A-33. Sleep can be measured by having Soldiers keep a sleep log, but compliance is likely to be very low and reliability is poor.

A-34. The best way to evaluate a Soldier's sleep status is to observe his behavior. Indications of sleep loss include, but are not limited to increased errors, irritability, bloodshot eyes, difficulty understanding information, attention lapses, decreased initiative/motivation, and decreased attention to personal hygiene.

A-35. Sleep loss can be confirmed by asking the obvious question: "When did you sleep last and how long did you sleep?" or "How much sleep have you gotten over the last 24 hours?" The commander or leader should direct this question not only to his Soldiers, but to himself as well.

A-36. Sleep-deprived Soldiers may be impaired despite exhibiting few or no outward signs of performance problems, especially in high tempo situations. The best way to ensure that soldiers are getting enough sleep is for leaders to establish schedules that provide at least 7 to 8 hours of sleep in 24 hours.

Common Misconceptions about Sleep and Sleep Loss

A-37. It is commonly thought that adequate levels of performance can be maintained with only 4 hours of sleep per 24 hours. In fact, after obtaining 4 hours of sleep per night for 5 to 6 consecutive nights a Soldier will be as impaired as if he had stayed awake continuously for 24 hours.

A-38. Another misconception is that Soldiers who fall asleep at inappropriate times (for example, while on duty) do so out of negligence, laziness, or lack of willpower. In fact, this may mean that the soldier has not been afforded enough sleep time by his unit leaders.

A-39. It is common for individuals to think that they are less vulnerable to the effects of sleep loss than their peers either because they *just need less sleep* or because they are better able to *tough it out.* In part, this is because the Soldier who is sleep deprived loses the self-awareness of how his performance is impaired. Objective measures of performance during sleep loss in such persons typically reveal substantial impairment.

A-40. Some individuals think that they can *sleep anywhere* and that they are such *good sleepers* that external noise and light do not bother them. However, it has been shown that sleep is invariably lighter and more fragmented (and thus less restorative) in noisy, well-lit environments (like the tactical operations center). Sleep that is obtained in dark, quiet environments is more efficient (more restorative per minute of sleep).

A-41. Although it is true that many people habitually obtain 6 hours of sleep or less per night, it is not true that most of these people only *need* that amount of sleep. Evidence suggests that those who habitually

sleep longer at night tend to generally perform better and tend to withstand the effects of subsequent sleep deprivation better than those who habitually obtain less sleep.

24. APPENDIX G: ACRONYMS

3ID	3rd Infantry Division
68X	Behavioral Health Technician
68W	Medic
AARs	After Action Reviews
AD	Armored Division
ADHD	Attention Deficit Hyperactivity Disorder
AFIP	Armed Forced Institute of Pathology
AFME	Armed Forces Medical Examiner
AIT	Advanced Individual Training
AHLTA-T	Armed Forces Health Longitudinal Technology Application-Theater
AMEDD	Army Medical Department
ANCOC	Advanced Non-Commissioned Officers Course
AO	Area of Operations
AOC	Area of Concentration
ASER	Army Suicide Event Report
ASI	Additional Skill Indicator
ASIST	Applied Suicide Intervention Skills Training
ASMC	Area Support Medical Company
BCT	Brigade Combat Team
BDE	Brigade
BH	Behavioral Health
BHO	Behavioral Health Officer
BN	Battalion
BNCOC	Basic Non-Commissioned Officers Course
BTTs	Border Transition Teams
BUMED	Bureau of Medicine & Surgery
BUPERS	Bureau of Personnel
C-1	Corps Personnel
CAV	Calvary
CDC	Center for Disease Control
CDR	Commander
CG	Commanding General
CID	Criminal Investigations Division
CME	Continued medical education
CNN	Cable News Network
COL	Colonel
CONUS	Continental United States
COP	Coalition Outpost
COSC	Combat and Operational Stress Course
COSC MTT	Combat Operational Stress Control Mobile Training Teams
COSR	Combat and Operational Stress Reaction
COSC-WARS	Combat and Operational Stress Control Workload Activity Reporting System
CSC	Combat Stress Control
CSH	Combat Support Hospital
CSM	Command Sergeant Major
DA	Department of Army

DIV	Division
DOD	Department of Defense
DOD	Department of Defense
DODSER	Department of Defense Suicide Evaluation Report
DONSIR	Department of the Navy Suicide Investigation Report
E1-E4	Junior Enlisted Soldiers
EKG	Electro Cardio Gram
EMR	Electronic medical record
EPICON	Epidemiological Consultation
FOB	Forward Operating Base
FORSCOM	Force Command
FRAGO	Fragmentary Order
FRG	Family Readiness Group
G-1	Army Personnel
GLMMs	Generalized Linear Mixed Effects Models
HQDA	Headquarters, Department of the Army
HQMC	Headquarters, Marine Corps
IBA	Inter-ballistic Armor
IED	Improvised Explosive Device
IN	Infantry
ITO	Iraqi Theater of Operations
J1	Joint Staff, Personnel
J3	Joint Staff, Operations
JAG	Judge Advocate General
MAJ	Major
MC4	Medical communications for combat casualty care
MED	Medical
MEDCOM	Medical command
MH	Mental Health
MHAT	Mental Health Advisory Team
MiTTs	Military Transition Teams
MNC-I	Multi National Corps Iraq
MND	Multi National Division
MND-B	Multi National Division- Baghdad
MND-C	Multi National Division- Center
MND-SE	Multi National Division- Southeast
MND-W	Multinational Division-West
MNF-I	Multi National Force Iraq
MOS	Military Occupational Specialty
MP	Military Police
MRMC	Medical research and Material Command
MTF	Military Treatment Facility
MTBI	Mild Traumatic Brain Injury
MTOE	Mission Table of Organization and Equipment
MWR	Morale, Welfare, and Recreation
NCO	Non-Commissioned officers
NCOIC	Non Commissioned Officer in Charge
NIMH	National Institute of Mental Health
NMRC	Naval Medical Research Center
NPTT	National Police Training Team
OBC	Officer Basic Course

OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OPNAV	Office of the Chief of Naval Operations
OPTEMPO	Operating/Operations Tempo
OP	Out-Patient
OT	Occupational Therapy
OTSG	Office of the Surgeon General
PC	Primary Care
PCL	Post-Traumatic Stress Disorder Checklist
PDHA	Post-Deployment Health Assessment
PDHRA	Post-Deployment Health Re-assessment
PHQ-D	Patent health questionnaire depression
PROFIS	Professional Officer Filler Information System
PT	Physical Training
PTSD	Post Traumatic Stress Disorder
R&R	Rest & rehabilitation
RIP-TOA	Relief in Place/Transfer of Authority
ROE	Rules of Engagement
SCR	Stryker Calvary Regiment
SESS	Air Force Suicide Events Surveillance System
SGM	Sergeant Major
SGT	Sergeant
SIG	Signal
SM	Soldier Member
SME	Subject Matter Expert
SOP	Standing Operating Procedure
SPO	Suicide Prevention Officer
SPSS	Statistical Package for the Social Sciences
SRMSO	Suicide Risk Management & Surveillance Office
SSG	Staff Sergeant
TBI	Traumatic Brain Injury
TECOM	Training and Education Command
TF	Task Force
TRADOC	Training and Doctrine Command
UBHNAS	Unit Behavioral Health Needs Assessment
UCMJ	Uniformed Code of Military Justice
UMT	Unit Ministry Team
UNA	Unit Needs Assessment
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAF	US Air Force
USN	US Navy
USAREUR	U.S. Army, Europe
VBIED	Vehicle Borne Improvised Explosive Device
WLC	Warrior Leader Course
WISQARS	Web-based Inquiry Statistics Query and Reporting System
WO	Warrant Officer
WRAIR	Walter Reed Army Institute of Research

Mental Health Advisory Team (MHAT) V
Operation Enduring Freedom 8
Afghanistan

14 February 2008

Office of the Command Surgeon

(b)(2)

and

Office of The Surgeon General
United States Army Medical Command

The results and opinions presented in this report are those of the Mental Health Advisory Team V members and do not necessarily represent the official policy or position of the Department of Defense, the United States Army, or the Office of The Surgeon General.

25. EXECUTIVE SUMMARY

25.1 Introduction

The Mental Health Advisory Team (MHAT) V Operation Enduring Freedom (OEF) was established by the Office of the U.S. Army Surgeon General at the request of the Service Chief, Army Central Command (ARCENT).

The mission of MHAT V OEF was to:

4. Assess Soldier mental health and well-being in Afghanistan.
5. Examine the delivery of behavioral health care in Operation Enduring Freedom (OEF).
6. Provide recommendations for sustainment and improvement to command.

During October and November 2007, 699 Soldiers assigned to the (b)(2) (b)(2) completed anonymous Soldier Well-Being surveys. In addition, 190 Soldiers assigned to Task Force (b)(2) the unit conducting the Army Transition Team mission completed the same surveys. Finally, anonymous surveys were completed by 23 behavioral health, 40 primary care and 24 unit ministry team members.

During the period of 15 October to 30 November the MHAT V OEF team (a) processed and analyzed survey data, (b) examined secondary data sources, and (c) conducted focus group interviews with Soldiers, behavioral health personnel, and medical personnel. The MHAT V OEF team report and recommendations are based on these data sources.

25.2 OEF 2007 Central Findings: Soldiers

1. OEF 2007 Soldiers in Brigade Combat Teams (BCTs) reported combat levels comparable or higher to OIF 2007 Soldiers in BCTs. Combat levels are a key determinant of mental health status.

2. Deployment length and family separation were the top non-combat issues.

3. Soldier morale was similar to OIF but lower than OEF 2005.

4. OEF 2007 Soldiers had higher rates of mental health problems than OEF 2005 Soldiers and comparable or higher rates to OIF 2007 Soldiers.

5. Good leadership was a key factor in sustaining Soldier mental health and well-being.

6. OEF 2007 Soldiers reported more barriers to accessing behavioral health (BH) care than OIF 2007 Soldiers.

7. For OEF 2007 Soldiers with mental health problems, more reported receiving mental health care than OIF 2007 and OEF 2005 Soldiers.

8. Approximately 17% of OEF 2007 Soldiers reported taking mental health medications; one-half of those medications were sleep medications.

25.3 Summary of OEF Behavioral Health Personnel Findings

1. OEF BH personnel were predominantly Air Force (61%) and had significantly less time in theater than BH personnel in OIF.

2. OEF BH personnel supported more locations (30 vs. 9) and took more time to travel (including prep time) to locations (39 hrs vs. 8 hrs) than BH personnel in OIF.

3. OEF BH personnel conducted Combat & Operational Stress Control (COSC) outreach less often than OIF (conduct several times a week: OEF 17% vs. OIF 52%).

4. Major changes were made during and immediately following MHAT V OEF in terms of distribution of BH assets and conducting an aggressive outreach program. In addition, the CJTF-82 Command Surgeon appointed the CSC Commander as the BH Consultant.

25.4 Summary of OEF Primary Care (PC) Personnel Findings

1. OEF Primary Care personnel helped service members with MH problems as often as OIF PC personnel (40% at least weekly).

2. There was a trend toward PC personnel referring service members with MH problems more often than OIF PC personnel (38% vs. 26% at least weekly).

25.5 Summary of OEF Unit Ministry Team Personnel Findings

1. OEF UMT personnel supported more locations (28 vs. 18) than OIF UMT personnel.

2. OEF UMT personnel communicated less often with BH (OEF 17% frequently/always vs. 52%) and PC (62% frequently/always vs. 86%) personnel than OIF UMT personnel.

25.6 Summary of OEF Suicide Assessment

1. Since the beginning of OEF (DEC 2001), there have been 15 confirmed Army suicides. Theater rates of suicide have held steady, ranging from 16 to 22 per 100,000 since 2002 (except for 2003), and are higher than the total Army 10-year rate of 10.6 per 100,000.

2. There was no formal suicide prevention training program in OEF to ensure that Soldiers receive the latest standardized training.

3. There is no single, joint tracking system capable of monitoring suicide, mental health evacuations, and the use of mental health/combat stress control services in a combat environment.

25.7 Summary of TF (b)(2) (Transition Team) Findings

1. Compared to (b)(2) Soldiers, TF (b)(2) Soldiers were older, higher ranking, more likely to be married, and in theater fewer months. They reported fewer combat experiences and less concern about deployment stressors. These factors are related to better mental health.

2. Compared to (b)(2) Soldiers, TF (b)(2) Soldiers had higher morale, were less likely to report mental health problems, reported less stigma and barriers to BH care; rated their leadership less favorably, and had a higher number of Soldiers using alcohol while in theater.

25.8 Key Recommendations

25.8.1 During Deployment

1. Every 3 months and following significant events, rotate remote units back to more established FOBs for a minimum of 7 days (+ travel time) in order to allow them to re-set.

2. Re-structure R&R program to give priority to Soldiers working outside the basecamp.

3. Develop and monitor work cycles using Combined Arms Doctrine Directorate (CADD) Sleep Management guidance and encourage treatment seeking for sleep problems.

4. Follow MEDCOM policy on in-theater Battlemind Psychological Debriefings after deaths, serious injuries and other significant events.

5. Focus BH outreach on platoons with the highest levels of combat and conduct outreach using the Proximity, Immediacy, Expectancy and Simplicity (PIES) model.

6. Require BH providers from all services be qualified to travel throughout the theater in order to conduct outreach.

7. Mandate all combat medics and Chaplains receive Battlemind Warrior Resiliency (formerly Battlemind First Aid) Training before deploying to OEF or OIF.

8. Appoint BH consultant to the Command Surgeon who has knowledge of the theater and authority to assign BH personnel in an optimal configuration.

25.8.2 Post-Deployment/Sustainment

9. Tailor interventions to units based on their level of combat experiences.

10. To facilitate Soldiers reintegrating with their families and transitioning home, ensure Soldiers receive mandated Post-Deployment Battlemind Training.

11. Provide Spouse/Couples Battlemind Training to improve relationships and facilitate transitioning home.

12. Require NCO and Junior Officers receive Battlemind for Junior Leaders Training.

13. Educate and train NCOs and Officers about the important role they play in maintaining Soldier mental health and well-being and reducing stigma/barriers by including behavioral health awareness training in ALL leader development.

14. Hold leaders accountable for directly or indirectly demeaning Soldiers that seek behavioral health resources.

25.8.3 Suicide Prevention

15. Tailor suicide prevention training to the deployment cycle. Ensure training is scenario-based and includes buddy-aid and leader actions.

26. BACKGROUND AND LIMITATIONS

26.1 Background

This report presents findings from the Mental Health Advisory Team Operation Enduring Freedom (MHAT V OEF). The MHAT V deployed teams to Iraq and Afghanistan in October and November of 2007. This report presents the findings from the OEF Theater. The mission and scope of activities of the MHAT V OEF were approved by the Army Central Command (ARCENT) Service Chief. The MHAT V OEF members were assigned to (b)(2) (b)(2) and worked directly under the supervision and control of the Command Surgeon, (b)(2) Previous MHAT assessments (MHATs I-IV) have been conducted in Iraq since the beginning of Operation Iraqi Freedom (OIF). An additional MHAT assessment (MHAT IIb) was conducted in Afghanistan in 2005.

26.1.1 MHAT Mission

The MHAT mission is to assess Soldier mental health and well-being; examine the delivery of behavioral health care, and provide recommendations for sustainment and improvement to command.

26.1.2 MHAT Scope of Activities

The MHAT is designed to:

1. Assess the mental health and well-being of the deployed force, and identify trends by comparing findings from OEF 2007 to those from OIF 2007 as well as the findings from OEF 2005.

2. Review behavioral health policies, programs, and structure to ensure optimal integration/utilization.

3. Review suicide prevention efforts.

4. Assess ethical issues faced by Soldiers to enhance future battlefield ethics training. This activity was included in a previous MHAT (MHAT IV) at the specific request of the CG, Multi National Forces-Iraq (MNF-I).

26.2 Limitations

MHAT recommendations are based upon many sources of information to include survey data from Soldiers and providers and focus groups. One of the primary sources for data comes from the anonymous Soldier Well-Being surveys collected as part of the effort. Soldier survey data are valuable because they provide a way to summarize responses from a large number of Soldiers and examine trends and patterns that would otherwise be impossible to detect. Despite these strengths, there are two limitations associated with the Soldier survey data that need to be highlighted – issues related to the validity of certain scales and the sampling scheme used to collect the data.

26.2.1 Scale Validity

Many of the constructs assessed in the survey are measured using validated scales. For instance, the items used to assess Post-Traumatic Stress Disorder (PTSD) are widely used in

civilian and veteran settings and have been subsequently validated in active-duty Army populations (Bliese, Wright, Adler, Cabrera, Hoge & Castro, in press). Validated scales have established norms that make it possible to state with some degree of certainty that a specific score (e.g., a score of 50 on the Post-Traumatic Stress Disorder Check List -- PCL) is an indicator of the clinical condition being measured (e.g., PTSD). In the current survey, however, validated measures were not available for all constructs. For instance, the measures of ethical issues developed for the previous MHAT missions have not been validated. The use of un-validated scales provides flexibility in assessing battlefield conditions; nonetheless, in cases where un-validated scales without established norms are used, the interpretation of the data is more subjective than in cases where validated norms exist.

26.2.2 Sampling Scheme

A second limitation with the survey data is that respondents were not sampled using a random sampling design. A commonly used sampling design is a stratified random sample where relevant sub-populations are identified (e.g., type of unit, gender or rank), and individuals are randomly selected from these sub-populations. While this design has many statistical advantages, it was considered logistically unfeasible to implement in a combat environment. In addition, this sampling design would require access to personally identifying information among deployed Soldiers and was not permitted under the current MHAT human use protocol because it would raise concerns about confidentiality.

Cluster sampling is an alternative random sampling design that is less precise but potentially feasible in a deployed setting. In this sampling strategy, all members of randomly selected groups provide data. The sampling scheme used for past and present MHATs had elements of a cluster sample. The MHAT V OEF data collection targeted Brigade Combat Teams (BCTs) as well as supporting Task Forces. Specifically, two BCTs, six supporting task forces and one Brigade Transition Team were sampled. Each BCT and Task Force was asked to provide 25 Soldiers from each of their companies. The specific companies and individuals within the companies, however, were selected by the local medical provider rather than by a predetermined random process; consequently, the sampling scheme cannot be considered random.

One issue associated with not having a random sampling scheme is the potential for sampling bias. That is, the individuals who selected the specific Soldiers to complete surveys could introduce bias by selecting either highly symptomatic or highly non-symptomatic Soldiers. While possible, the MHAT OEF team has no reason to believe that Soldiers were systematically picked in any way that would bias the results. It is common, for instance, to select individuals to complete surveys based on which specific platoon or platoons have down-time the day the survey administration is scheduled.

26.3 Mitigating the Limitations

26.3.1 Current Report

The current report compares responses on MHAT V OEF (2007) with MHAT IIb OEF (2005) and MHAT V OIF (2007). Throughout this report these MHAT sample populations will be identified and referred to as *OEF 2007*, *OEF 2005* and *OIF 2007*.

Comparisons between sample populations were made using unadjusted and adjusted values. In most cases, unadjusted values are presented. However, when unadjusted values differ from

adjusted values or when there are theoretical reasons to do so, such as the relationship between Soldier mental health and deployment length, adjusted values are also reported. In addition, to mitigate the limitations associated with both un-validated scales and non-random sampling, the MHAT V OEF report relied heavily on statistical modeling to draw inferences. That is, in addition to presenting unadjusted values, the analyses focused on whether responses to variables of interest are related to factors such as time in theater or the number of previous deployments.

The use of statistical modeling has two additional advantages. First, it provides a way to compare responses over time while adjusting for sample differences. Specifically, the current report compares responses from OEF 2007 with those from OEF 2005 and OIF 2007. All three theaters used virtually identical sampling designs, so it is reasonable to conclude that sampling bias (if it exists) would be comparable. In making comparisons, the analyses adjust for demographic sample differences in (1) gender, (2) rank, and (3) months deployed. This helps ensure that observed differences are not merely due to demographic differences in the two samples.

Second, by using statistical modeling, adjusted mean values can be used in figures to illustrate differences or similarities across years. The use of adjusted means effectively equalizes the OEF 2005, OEF 2007 and OIF 2007 samples on key demographic variables. In reporting adjusted means, we generally provide estimated values for a prototypical Soldier defined as a (1) male, (2) junior enlisted (3) deployed for nine months.

Adjusted means were estimated from either a logistic regression model or a linear regression model depending upon the nature of the dependent variable. Key results were also confirmed using generalized linear mixed effects models (GLMMs) to control for hierarchical nesting of the data. These additional analyses were conducted to ensure that parameter estimates and standard error values were not biased by the nested nature of the data (Bliese & Hanges, 2004; Pinheiro & Bates, 2000). GLMMs were not used throughout because a fairly large percentage of Soldiers failed to provide their complete unit information and thus GLMM models had to be run on a sub-sample of those who provided complete unit information.

All analyses in this report were run in the statistical language R (R Core Development Team, 2007), and replicated by a second member of the research team using the Statistical Package for the Social Sciences program (SPSS).

26.3.2 Future MHAT Missions

Future MHAT missions should consider implementing a cluster sampling design. One way to do this would be to require all platoon members from 2 randomly selected platoons within each selected company to complete the survey (a census sample of randomly selected platoons). Using this alternative will eliminate the possibility of bias.

26.4 Data Handling Procedures

All surveys were distributed and collected through the medical chain of custody or by MHAT V OEF members. Respondents returned surveys in sealed envelopes to ensure anonymity and confidentiality. Procedures were put into place to ensure that datasets were adequately de-identified and that surveys were properly destroyed. A neutral third-party (the Army Audit Agency) observed the survey handling and database creation process (Appendix A).

27. OVERVIEW OF SOLDIER WELL-BEING

The MHAT V Soldier Well-Being survey contains the same core survey measures used in all previous MHATs. MHAT surveys are adapted from the Land Combat Study conducted by the Walter Reed Army Institute of Research (Hoge, Castro, Messer et al., 2004; Hoge, Terhakopoian, Castro et al., 2007).

27.1 Soldier Combat & Well-Being Model

The MHAT V survey covers: (1) Risk Factors, such as combat and deployment experiences; (2) Protective Factors, such as training and willingness to seek care; and (3) Behavioral Health Status and Performance Indices (see Figure 1).

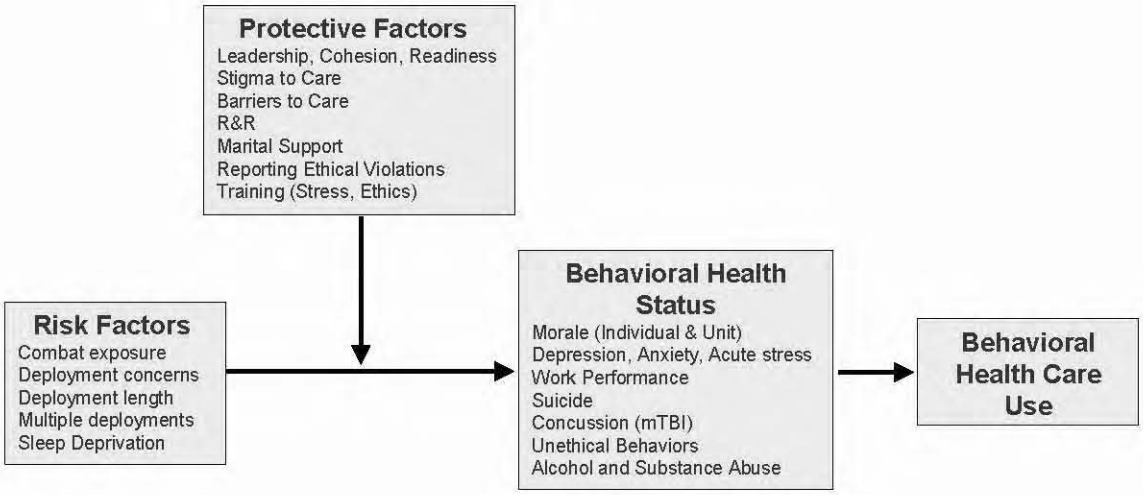


Figure 1. Soldier Combat & Well-Being Model (Adapted from Bliese & Castro, 2003).

27.1.1 Risk Factors

The model assumes that the behavioral health and performance of Soldiers is influenced by both environmental (e.g., exposure) and individual-level risk factors (e.g., sleep quality). One goal of the annual MHAT reports is to systematically evaluate changes in risk factors. A second goal is to determine whether new risk factors have emerged.

In this regard, the current OEF 2007 report will specifically examine the following:

6. Whether exposure to combat-related risk factors is significantly different when compared to OEF 2005 and OIF 2007.

7. Whether deployment concerns in OEF 2007 are significantly different from OEF 2005 and OIF 2007.

8. The degree to which reports of sleep deprivation are related to behavioral health and reports of sleep-related accidents and mistakes.

27.1.2 Protective Factors

Based on the framework of the conceptual model in Figure 1, behavioral health and performance can be improved either by (a) reducing or eliminating factors that put Soldiers at risk or (b) by strengthening protective factors so Soldiers are better able to cope when exposed to factors that put them at risk.

In combat environments, many risk factors are either unavoidable (e.g., exposure to potentially traumatic combat events) or they are the direct product of National policy decisions (e.g., the size of the military requires deploying Soldiers multiple times). For these reasons, many behavioral health interventions focus on developing and enhancing programs designed to help Soldiers cope with known risk factors (protective factors). The current OEF 2007 report examines:

5. Whether there are systematic changes in protective unit variables such as perceptions of positive leadership, readiness and cohesion.

6. Whether willingness to seek care and access to care has changed, and how Soldiers might be encouraged to seek care.

7. Whether systematic changes in family support are evident when compared to OEF 2005 and OIF 2007.

27.1.3 Behavioral Health and Performance

Across the five years of MHAT missions, a consistent set of behavioral health status variables have been assessed. These include:

4. Individual and Unit Morale

5. Acute Stress (PTSD), Depression and Anxiety

6. Suicides and Suicidal Ideation

In addition to evaluating the indicators listed above, the current report also evaluates a series of variables related to either various aspects of well-being or performance to include:

5. Self ratings of the degree to which stress and emotional problems have impacted performance.

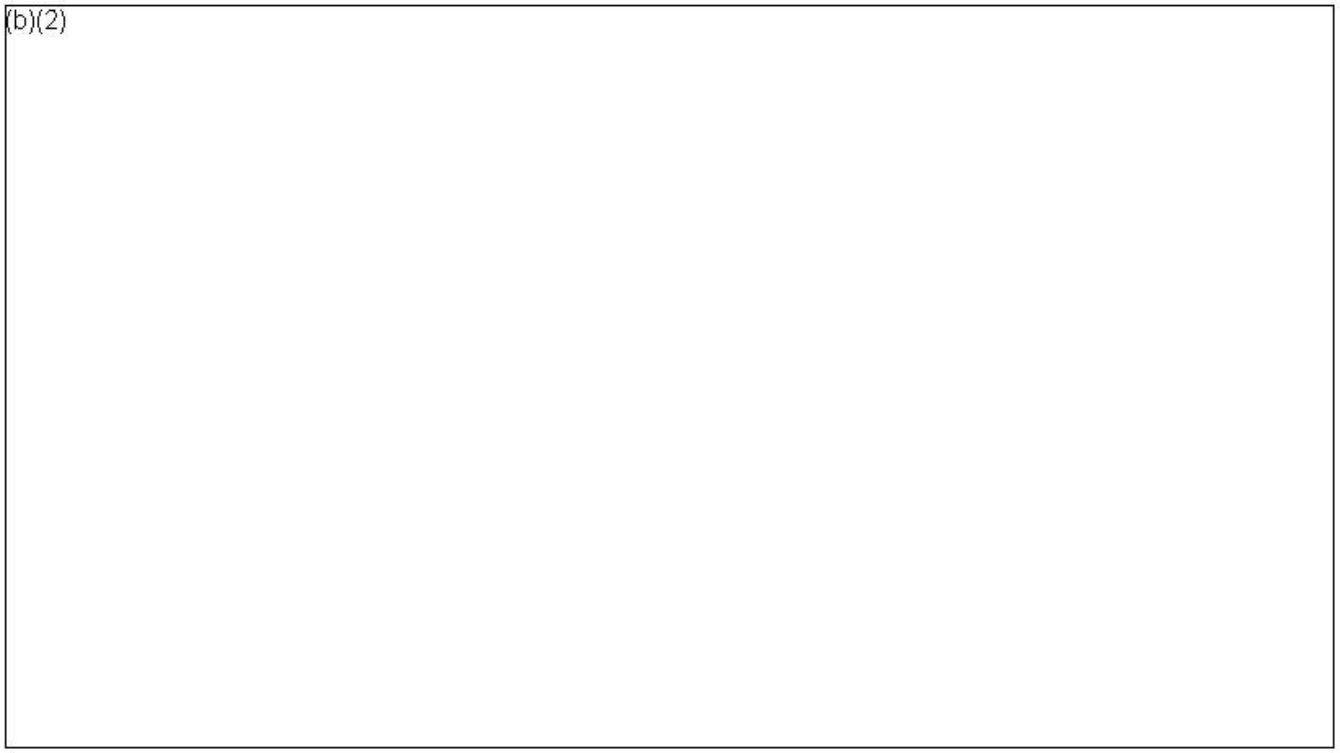
6. Use of alcohol and substance abuse in theater.

7. Soldiers' reports of unethical behaviors towards non-combatants.

Overall, these indicators provide a comprehensive assessment of the behavioral health status and performance of Soldiers deployed to Afghanistan.

27.2 OEF 2007 Soldier Sample and Methods

The OEF 2007 assessment of Soldiers focused on companies from brigade combat teams (BCTs) and supporting Task Forces (TFs) located primarily in the (b)(2)



Brigade Combat Teams and Task Forces represented in the assessment are listed in Table 1. These units had Soldiers complete the Soldier Well-Being survey and provided individuals to complete the behavior health (BH), primary care (PC) or unit ministry team (UMT) surveys. In addition, selected units also provided Soldiers for focus group interviews.

Table 1. Task Forces in OEF

27.3 Demographics and Comparison with MHAT OEF 2005 and OIF 2007

In the analyses detailed in this report, Soldier responses to the OEF 2007 survey (n=699) are compared to responses to the OEF 2005 survey (n=610) and the OIF 2007 survey (n=2195). For each of these assessments, the sampling strategy was virtually identical; nonetheless, there

were some demographic differences in the samples. Table 2 details key demographic variables across the three sample populations. The differences include:

1. Significantly fewer OEF 2007 respondents were active duty Soldiers (81%) compared to OIF 2007 (95%). However significantly more OEF 2007 respondents were active duty compared to OEF 2005 (72%).

2. Similar to OIF 2007, the majority of OEF 2007 respondents were junior enlisted, whereas OEF 2005 had a greater number of NCO respondents.

3. OEF 2007 Soldiers spent significantly less time in theater (7.7 months) at the time they completed the surveys compared to OIF 2007 (9.4 months) and OEF 2005 (9.6 months).

Although significant component differences exist between the three sample populations, analyses found no evidence of systematic differences in outcomes such as morale or mental health as a function of active versus reserve component, so this variable was not included as a control.

When drawing comparisons across the sampled populations, differences were evaluated using adjusted and unadjusted percents. When adjusted percents are reported, the demographic variables of gender, rank, and months in theater were statistically controlled to ensure that observed differences are not merely caused by demographic differences in the samples. For instance, when comparing combat experiences across samples, it is important to normalize the length of time Soldiers have deployed to determine whether there has been either a decline or escalation in combat intensity. Adjusted values are typically provided for male, E1-E4, in theater for nine months.

Table 2: Demographic Comparison - MHAT OEF 2005, OIF 2007 and OEF 2007

Demographic Variable	OEF 2005 n	OEF 2005 Percent	OIF 2007 n	OIF 2007 Percent	OEF 2007 n	OEF 2007 Percent
Gender						
Male	528	86.8%	1983	90.3%	628	89.8%
Female	80	13.2%	206	9.4%	71	10.2%
Unknown	2	0.3%	6	0.3%	0	0.0%
Age						
18-19	18	3.0%	87	4.0%	25	3.6%
20-24	250	41.1%	1102	50.2%	316	45.3%
25-29	150	24.7%	539	24.6%	168	24.1%
30-39	144	23.7%	378	17.2%	145	20.8%
40+	46	7.6%	86	3.9%	44	6.3%
Unknown	2	0.3%	3	0.1%	1	0.1%
Rank						
E1-E4	275	45.1%	1315	59.9%	398	57.1%
NCO	295	48.4%	720	32.8%	250	35.9%
Officer / WO	38	6.2%	150	6.8%	49	7.0%
Unknown	2	0.3%	10	0.5%	2	0.3%
Component						
Active	437	71.6%	2091	95.3%	569	81.4%
Reserve	109	17.9%	49	2.2%	51	7.3%
National Guard	56	9.2%	44	2.0%	64	9.2%
Unknown	8	1.3%	11	0.5%	15	2.1%
Marital Status						
Single	229	37.5%	924	42.1%	291	41.6%
Married	331	54.3%	1076	49.0%	353	50.5%
Divorced	43	7.0%	132	6.0%	37	5.3%
Unknown/Widowed	7	1.1%	63	2.9%	18	2.6%
Time in Theater						
6 Months or Less	42	6.9%	456	20.8%	165	23.5%
6 to 12 Months	540	88.2%	1318	60.0%	478	68.2%
Over 12 Months	NA	NA	256	11.7%	10	1.4%
Unknown	30	4.9%	166	7.6%	48	6.8%

28. SOLDIER BEHAVIORAL HEALTH AND PERFORMANCE INDICES

In the conceptual model in Figure 1, Soldier behavioral health and performance are viewed as outcomes determined by risk factors and protective factors. This report begins by examining these outcomes, and uses subsequent chapters on risk factors and protective factors to interpret behavioral health and performance results. In most cases, health and performance indices for OEF 2007 are examined relative to data from OEF 2005 as well as OIF 2007. However, in OEF 2007, surveys were completed by BCT and supporting Task Force Soldiers whereas in OIF 2007, only BCT Soldiers completed surveys. There are differences in BCT Soldiers and supporting TF Soldiers both demographically and in the missions they complete. Therefore, in some cases, additional analyses were conducted comparing data from BCT Soldiers in OEF 2007 with BCT Soldiers in OIF 2007.

28.1 Individual and Unit Morale

28.1.1 Morale: OEF 2005, OIF 2007 and OEF 2007

Soldiers' ratings of individual morale were significantly lower in OEF 2007 compared to OEF 2005 but similar to ratings in OIF 2007. However, ratings of unit morale did not differ significantly for the three populations. The percentage of Soldiers reporting high or very high individual and unit morale are presented in Figure 2. When these percentages are adjusted to control for gender, rank and months in theater, then unit morale in OEF 2007 (9%) is significantly lower ($p<0.05$) than unit morale in OIF 2007 (11.9%).

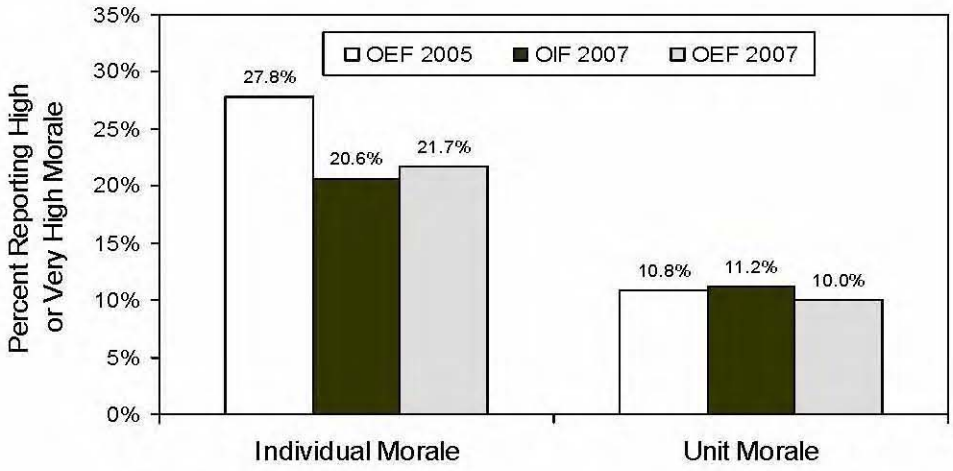


Figure 2: Unadjusted Rates for Individual and Unit Morale

28.1.2 Morale: Medium, High or Very High

An alternative way to look at morale is to examine the percent of Soldiers who rate morale as being medium, high or very high. Using this breakdown, a significantly lower percent ($p<0.001$) of OEF 2007 Soldiers (57.4%) reported medium, high or very high individual morale compared to OEF 2005 (68.4%). Rates for individual morale for OEF 2007 were similar to OIF 2007 (57.3%). For unit morale, a significantly lower percent ($p<0.01$) of OEF 2007 Soldiers (45.1%) reported medium, high or very high morale compared to OEF 2005 (52.5%) rates and significantly lower rates ($p<0.05$) compared to OIF 2007 (49.7%). This pattern of differences was similar when demographic differences were controlled.

28.2 Behavioral Health: Acute Stress (PTSD), Depression and Anxiety

Soldiers' ratings of depression, generalized anxiety and acute stress (i.e., PTSD) were assessed using standardized, validated scales (Spitzer, Kroenke, & Williams, 1999; Weathers, Litz, Herman, Huska, & Keane, 1993). The scales were identical to the measures used in previous MHAT surveys, and have formed the basis of peer-reviewed publications from the Walter Reed Army Institute of Research (WRAIR) (e.g., Bliese, et al., 2007; Hoge et. al., 2004; Hoge, et al., 2007). Details on scoring specific scales are available in previous MHAT reports.

28.2.1 Behavioral Health: OEF 2005, OIF 2007 and OEF 2007

Figure 3 presents the overall percents of Soldiers scoring positive for depression, generalized anxiety, acute stress or any of these three. Rates for depression, anxiety, acute stress and any mental health problem in OEF 2007 were significantly higher ($p<0.001$) than those reported in OEF 2005. There was a tendency for Soldiers in OEF 2007 to report higher depression and anxiety values than Soldiers in OIF 2007; however, using a conventional criterion of $p<.05$, these differences were not statistically significant. If these percentages are adjusted to control for gender, rank and months in theater, then rates on all scales for OEF 2007 remain significantly greater than OEF 2005 and additionally the rate of depression in OEF 2007 (11.4% vs. 7.6%) was significantly higher than OIF 2007 ($p<0.01$).

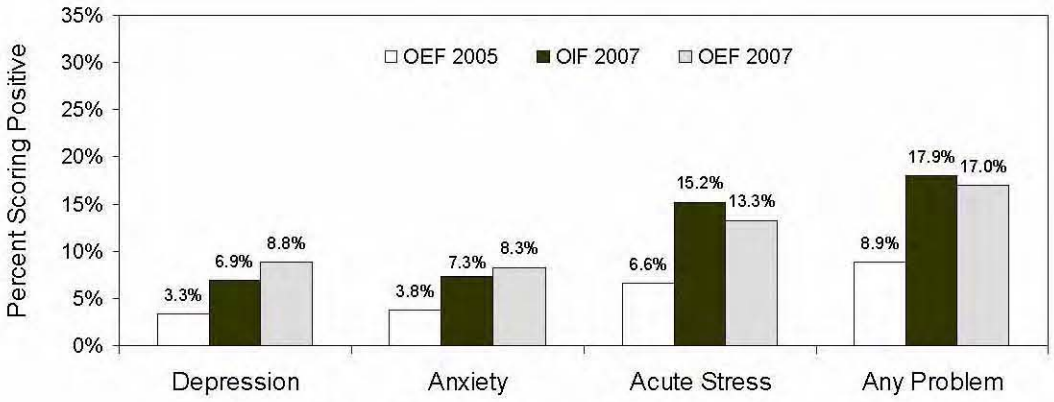


Figure 3: Unadjusted Rates for Behavioral Health

28.2.2 Behavioral Health 2007 Brigade Combat Teams Only

As previously stated, in OEF 2007, surveys were completed by Soldiers in supporting task forces as well as Brigade Combat Teams (BCTs). However, surveys in OIF 2007 were completed by Soldiers in BCTs only. Therefore additional analyses were run to compare OEF 2007 BCT Soldiers with OIF 2007 BCT Soldiers. These analyses are presented below in Figure 4. A significantly higher percent of OEF 2007 BCT Soldiers screened positive for depression compared to OIF 2007 Solders using both unadjusted ($p < 0.01$) and adjusted ($p < 0.001$) rates. Although unadjusted rates for anxiety and any mental health problem in OEF 2007 BCT Soldiers tended to be higher than OIF 2007 BCT Soldiers, these differences were not statistically significant. However, when controlling for gender, rank and time in theater, the OEF 2007 BCT Soldiers were more likely to screen positive for depression ($p < 0.001$), anxiety ($p < 0.01$) and any mental health problem ($p < 0.05$).

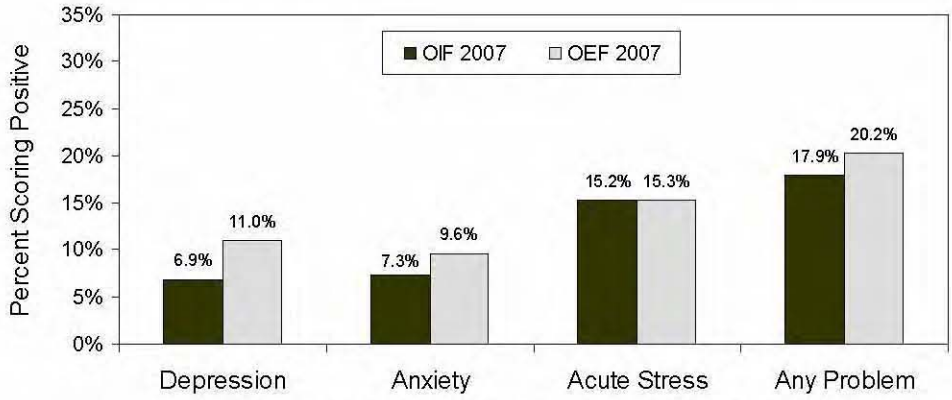


Figure 4: Unadjusted Rates for Brigade Combat Teams Only

28.3 Stress and Work Performance

There are a number of reasons to track mental health rates across deployments including the need to resource behavioral health care delivery. From an organizational perspective, however, mental health problems are also important to track because psychological well-being has been shown to be a direct pre-cursor of performance (Lang, Thomas, Bliese & Adler, 2007). In the Soldier Well-Being survey, work performance is assessed with three items where Soldiers indicate whether stress or emotional problems in the last four weeks have:

4. Limited your ability to do your job.
5. Caused you to do work less carefully than usual.
6. Caused your supervisor to be concerned about your performance.

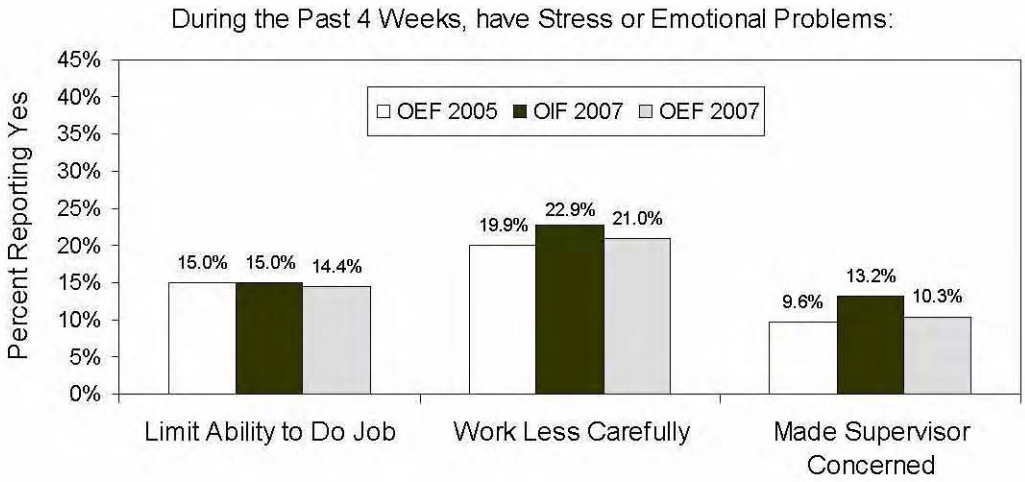


Figure 5: Unadjusted Rates

Figure 5 contrasts responses from OEF 2005, OIF 2007 and OEF 2007. No significant differences were found between the three populations on any of these three parameters using either adjusted or unadjusted rates.

28.4 Suicidal Ideation

Suicide rates in OEF have been above the Army 10-year average for every year except 2003; consequently, the current report contains a detailed section on suicide. Suicidal ideation, however, can also be examined using a single depression item on the Soldier Well-Being survey. This is the last item (item 9) of the PHQ-D (Spitzer, Kroenke, & Williams, 1999). This item asks Soldiers if they have been bothered by thoughts that they would be better off dead or of hurting themselves in some way over the last four weeks. Responses range from "Not at all" to "Nearly every day"; any response other than "Not at all" is considered a positive response. A significantly higher percentage of OEF 2007 Soldiers ($p < 0.001$) indicated suicide ideation compared to OEF 2005 (15% vs. 8%) whereas suicide ideation was similar for both OEF 2007 and OIF 2007 (15% vs. 13%, respectively). When comparing these populations using adjusted values, the same pattern of significance was found. Furthermore, 87% of OEF 2007 Soldiers reported receiving suicide prevention training, however only 51% reported the training to be sufficient, indicating the need to ensure that Soldiers receive suicide prevention training that is applicable to a combat environment.

28.5 Social Relationships: Divorce

Another possible indication of behavioral health problems is the percentage of Soldiers who report that they intend to divorce. Significantly more Soldiers were planning to get divorced ($p < 0.01$) in OEF 2007 (19%) compared with OEF 2005 (13%). Soldiers' reports of their intent to divorce did not differ significantly when comparing OEF 2007 and OIF 2007 (19%). This pattern was the same using adjusted values.

28.6 Concussion (mTBI)

A series of questions evaluated whether Soldiers had experienced one of four possible head injuries, and whether they had been evaluated for a concussion by a medical professional. These questions are unique to MHAT V and therefore comparisons to OEF 2005 cannot be made. The specific questions were:

How many times during this deployment did you have an injury that involved the following (response options ranged from "never" up to "five or more times"):

Injury to your head
Being dazed, confused, or "seeing stars"
Not remembering the injury
Losing consciousness

During this deployment were you evaluated by a medical professional for a concussion? (yes /no)

Responses to the head injury questions were scored as "never" versus "one or more times". Figure 6 shows the percent of Soldiers who reported receiving the specific injury at least once and the percent that were evaluated by a medical professional for a concussion. Figure 6 also shows the percent of Soldiers who met the criteria for screening positive for a mild Traumatic Brain Injury (mTBI). To screen positive for mTBI, Soldiers had to report having been injured and also report (a) being dazed and confused, (b) not remembering the injury or (c) losing consciousness. Note that the estimates in Figure 6 may be biased downward because a number of Soldiers have been evacuated from theater because of explosions. Overall, a slightly higher percentage of OEF 2007 Soldiers screened positive for mTBI compared to OIF 2007. However, a lower percentage of OEF 2007 Soldiers reported being evaluated for a concussion compared to OIF 2007 Soldiers.

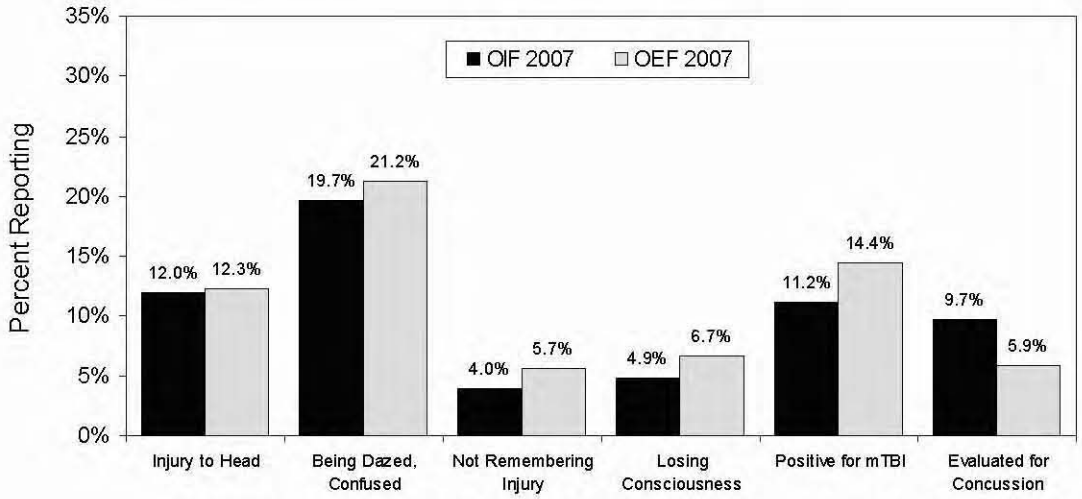


Figure 6: Unadjusted Rates for Head Injuries and Concussion

Figure 7 breaks down the percents in Figure 6 and shows the percent of Soldiers who reported head injuries who also reported being evaluated by a medical professional for a concussion in OEF 2007 compared to OIF 2007. For instance, 21.2% of the OEF 2007 Soldiers reported having an injury that involved "Being dazed, confused or "seeing stars" (Figure 6). Figure 7 shows that 4.4% of the 21.2% were evaluated for a concussion while 16.8% (not shown) of the 21.2% were not evaluated. Overall, Figure 7 shows that less than half of the Soldiers who

report mTBI also report being evaluated for a concussion. Also, despite having more OEF 2007 Soldiers screening positive for mTBI, a similar percent or lower were seen by a medical professional compared to OIF 2007 Soldiers.

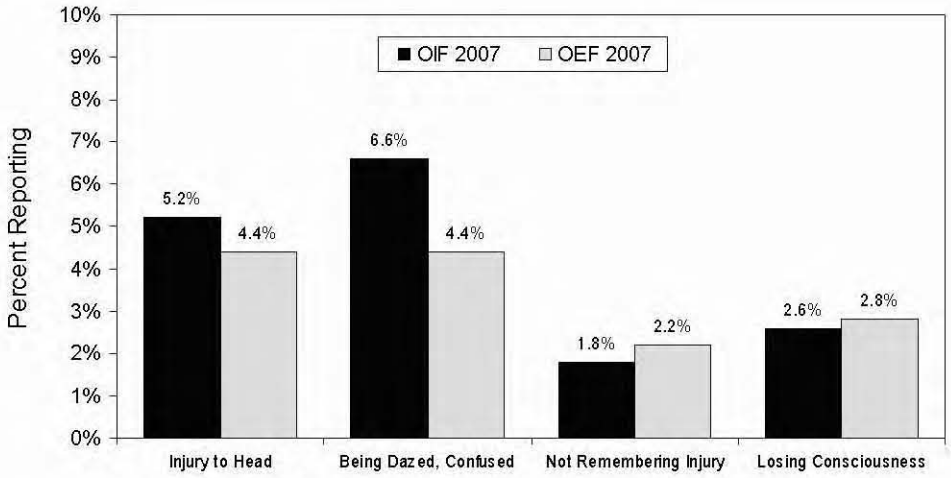


Figure 7: Evaluated for Head Injuries and Concussion (Unadjusted Rates)

28.7 Alcohol and Substance Abuse

The reported use of alcohol in OEF 2007 was significantly lower ($p < 0.01$) (7%) compared to OEF 2005 (12%). However, significant differences were not found when the values were adjusted for gender, rank and time in theater. Reported alcohol usage in OIF 2007 (8%) was similar to OEF 2007 (8%).

Reported use of illegal drugs or substances was significantly higher ($p < 0.05$) in OEF 2007 (2.6%) compared to OIF 2007 (1.4%). These statistical differences were also found when adjusting for gender, rank and time in theater. Rates of illegal drug use were similar in OEF 2007 and OEF 2005 (2.3%) using both adjusted and unadjusted values.

28.8 Unethical Behaviors

In 2006, ethical issues were included in the MHAT IV Soldier Well-Being survey at the request of the MNF-I Commander. The questions specifically addressed the issue of battlefield ethics and the adequacy of battlefield ethical training for preparing Soldiers to conduct combat operations in Iraq. As noted in the MHAT IV report, MHAT IV members and other military subject matter experts (SMEs) developed a set of unique survey questions. These questions assessed four dimensions:

5. Dimension 1: Attitudes Regarding the Treatment of Insurgents and Non-Combatants
    a. Five questions, scored on a five-point scale ranging from Strongly Disagree to Strongly Agree.
    b. A sample item is "All non-combatants should be treated with dignity and respect."

6. Dimension 2: Battlefield Ethical Behaviors and Decisions
    a. Five questions scored on a scale from Never, One Time, Two Times, Three or Four Times to Five or More Times
    b. A sample items is "Insulted and/or cursed non-combatants in their presence."

7. Dimension 3: Reporting Ethical Violations
    a. Six questions scored on a five-point scale ranging from Strongly Disagree to Strongly Agree
    b. A sample item is "I would report a unit member for the mistreatment of a non-combatant."

8. Dimension 4: Battlefield Ethics Training
    a. Five questions scored on a "Yes" or "No" response scale
    b. A sample item is "The training I received in the proper (ethical) treatment of non-combatants was adequate."

The four dimensions provide different information and fit into different parts of the conceptual model presented in Figure 1. Battlefield ethics training (Dimension 4) theoretically serves as a protective factor as does a Soldiers' willingness to report ethical violations (Dimension 3). They are protective because high responses to either Dimension 3 or Dimension 4 should be associated with a reduction in the number of unethical behaviors reported by Soldiers.

Attitudes regarding the treatment of insurgents and non-combatants (Dimension 1) may be influenced by training and may also be a pre-cursor to behavior. Social psychological literature indicates that the direct link between attitudes and actual behavior is quite weak (Fishbein & Ajzen, 1976); therefore in this report, we focus on modeling reported behavior (Dimension 2) rather than focusing on attitudes (Dimension 1).

One of the central findings from MHAT IV was that Soldiers and Marines were more likely to report they had engaged in unethical behavior if they had also screened positive for behavioral health problems such as depression, anxiety or acute stress or if they reported high levels of anger. Therefore, this section of the reports re-examines the relationship between unethical behaviors and behavioral health status. Below is an assessment of whether reports of unethical behaviors differ between OEF 2007 and OIF 2007. Questions relating to ethical behavior were not included in the OEF 2005 survey and therefore comparisons with that population are not made.

28.8.1 Reports of Unethical Behaviors Compared to OIF 2007

The incidence of unethical behavior is determined by whether Soldiers report:

6. They insulted and/or cursed non-combatants in their presence.
7. They damaged and/or destroyed private property when it was not necessary.
8. They physically hit/kicked a non-combatant when it was not necessary.
9. Unit members "modified" the rules of engagement in order to accomplish the mission.
10. Unit members "ignored" the rules of engagement in order to accomplish the mission.

As noted in the limitations section of this report, one of the potential limitations associated with interpreting the ethics questions is that it was necessary to use un-validated scales. As such, there are no established norms upon which to help interpret the items. As mentioned earlier,

these questions were not included in the OEF 2005 survey therefore the current report only presents comparisons for OEF 2007 relative to OIF 2007. Approximately 10% of OEF 2007 Soldiers reported damaging or destroying property when it was not necessary while almost 4% reported that they hit or kicked non-combatants when it was not necessary. The comparison of responses across theaters is presented in Table 3. Using the convention p-value of $p < .05$, the analyses reveal that for most questions, responses did not differ between the two theaters. The only significant difference ($p < 0.001$) was found for Question 1, in which 36.6% of OEF 2007 Soldiers reported they "Insulted and/or cursed non-combatants in their presence" compared to 29.6% of OIF 2007 Soldiers. This relationship was also significant for adjusted values ($p < 0.001$).

Table 3: Treatment of Non-Compatants (Unadjusted Percents).

	Percent Reporting One Time or More		
Unethical Behavior Variable	OIF 2007	OEF 2007	p-value
1. Insulted and/or cursed non-combatants in their presence.	29.6%	36.6%	0.00
2. Damaged and/or destroyed private property when it was not necessary.	11.9%	9.8%	0.12
3. Physically hit/kicked a non-combatant when it was not necessary.	5.0%	3.9%	0.24

28.8.2 Mental Health and Unethical Behaviors in OEF 2007

Earlier MHAT reports have identified a relationship between mental health and unethical behaviors. That is, Soldiers who screened positive for mental health problems of depression, anxiety or acute stress were significantly more likely to report engaging in unethical behaviors. This relationship was also found in OEF 2007. Specifically, Soldiers who screened positive for any mental health problem were more than twice as likely to report engaging in unethical behaviors as those who did not screen positive for a mental health problem (Table 4).

Table 4: Treatment of Non-Combatants as a Function of Mental Health Status (Unadjusted Percents).

	Positive for Mental Health Problem		
Unethical Behavior Variable	No	Yes	p-value
1. Insulted and/or cursed non-combatants in their presence.	31.7%	60.7%	0.00
2. Damaged and/or destroyed private property when it was not necessary.	7.2%	22.2%	0.00
3. Physically hit/kicked a non-combatant when it was not necessary.	2.5%	11.1%	0.00

This pattern was also found when evaluating reports of unethical behavior as a function of high anger levels (Table 5). This pattern of significance for both measures was also found using adjusted values. That is, reports of unethical behavior were significantly higher for Soldiers who screened positive for a mental health problem or had high levels of anger. These findings indicate that screening positive for mental health problems or high levels of anger is significantly associated with the likelihood that a Soldier will report engaging in unethical behaviors.

Table 5: Treatment of Non-Combatants as a Function of Anger (Unadjusted Percents).

	Anger		
Unethical Behavior Variable	Low	High	p-value
1. Insulted and/or cursed non-combatants in their presence.	21.5%	53.4%	0.00
2. Damaged and/or destroyed private property when it was not necessary.	5.0%	15.1%	0.00
3. Physically hit/kicked a non-combatant when it was not necessary.	1.1%	7.1%	0.00

28.9 Summary of Behavioral Health and Performance Indices

Overall behavioral health in OEF 2007 is significantly lower than in OEF 2005. Soldiers' ratings of individual morale in OEF 2007 were significantly lower than in OEF 2005. Significantly more OEF 2007 Soldiers reported planning to get a divorce compared to OEF 2005 Soldiers. Further, ratings of depression, generalized anxiety and acute stress were significantly higher in OEF 2007 compared to OEF 2005.

Ratings of individual and unit morale and behavioral health were similar for both OEF 2007 and OIF 2007. However, as mentioned earlier, the OEF 2007 sample included Soldiers in BCTs as well as supporting units whereas the OIF 2007 sample only included BCT Soldiers. Therefore, comparisons were made between OEF 2007 Soldiers in BCTs to OIF 2007 Soldiers in BCTs. When using adjusted values, Soldiers in OEF 2007 BCTs reported significantly more overall mental health problems than OIF 2007 Soldiers in BCTs. Self reports of drug use were higher in OEF 2007 than OIF 2007 and more OEF Soldiers reported insulting or cursing non-combatants.

There was also a significant relationship between reported treatment of non-combatants and high levels of anger or any mental health problem for Soldiers in OEF 2007. Soldiers were much more likely to report engaging in unethical behaviors if they had high levels of anger or screened positive for a mental health problem. These factors may serve as key markers for an increased propensity of Soldiers to engage in unethical or inappropriate behaviors.

29. SOLDIER RISK FACTORS

The examination of risk factors serves several purposes. First, it provides a theoretical basis from which to explain changes in Soldier behavioral health and reported performance indices. As noted earlier, Soldiers in OEF 2007 reported lower individual morale, and a greater number of mental health problems compared to OEF 2005. Based on these trends in health and performance outcomes, it would be reasonable to expect that risk factors are higher in OEF 2007 relative to OEF 2005. This expectation will be formally tested in this section. A second reason to examine risk factors is to specifically focus on those known risk factors that can be directly influenced by command and/or behavioral health providers. To this end, the final part of this section focuses on the relationship between sleep deprivation and behavioral and performance related problems.

29.1 Combat Experiences

Exposure to potentially traumatic experiences is one of the principal risk factors for behavioral health problems in combat settings (Fontana & Rosenheck, 1998). In the Soldier Well-Being Survey, combat experiences are measured with 33 items assessing experiences such as "Knowing someone seriously injured or killed" and "Being wounded/injured". A combat experience score (ranging from 0 to 33) is created by summing the number of reported experiences.

Figure 8 displays the relationship between combat experiences and acute stress for Soldiers in OEF 2007. Soldiers were divided into low, medium and high combat experiences based on the number of combat events that they reported experiencing during the deployment. Soldiers with high levels of combat exposure were significantly more likely to screen positive for acute stress or any mental health problem.

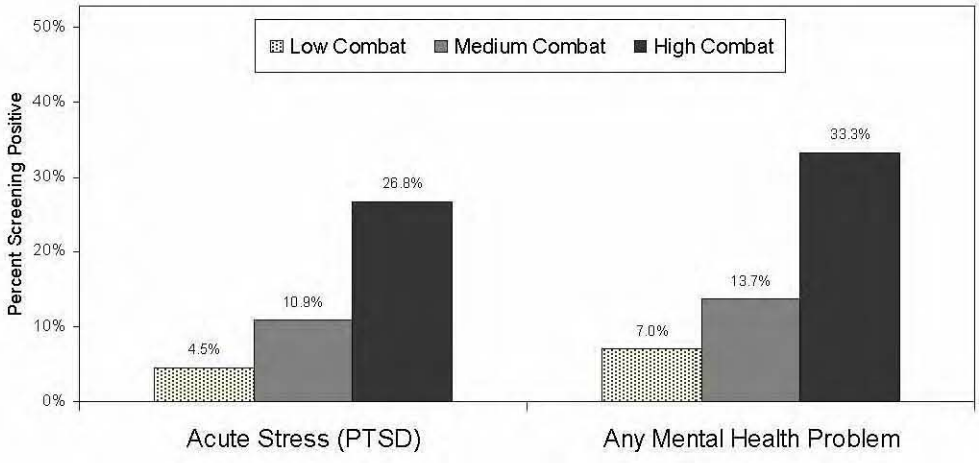


Figure 8: Unadjusted Rates for Combat Experience

Given the importance of combat experiences in terms of behavioral health, the following sections provide a detailed examination of differences between OEF 2007 compared to OEF 2005 and OIF 2007.

29.1.1 Combat Experiences for OEF 2007 Compared to OEF 2005

The following comparisons of combat experiences and Soldier concerns are based on adjusted values. One factor that can significantly impact combat experiences and Soldier concerns is time in theater. The average months in theater for OEF 2007 was 7.66 compared to 9.56 in OEF 2005 and 9.40 for OIF 2007. Therefore comparisons using adjusted values provide a more accurate indication of differences in the three populations and are presented here. Estimated values are provided for a male, junior enlisted Soldier deployed for nine months.

Table 6 provides the percents for items rated in OEF 2007 that significantly differed from OEF 2005. With a conventional p-value of .05, the large number of analyses (33 different tests) raises the possibility that one or two significant results would be observed simply because of the high number of tests conducted; therefore to adjust for the increase in the family-wise error rate, the table only list results with a p-value equal to or less than .01. By using this more stringent p-value, the differences represented in the table are more likely to represent meaningful differences.

Comparison across years indicates a significantly higher combat intensity in OEF 2007 compared to OEF 2005. However, some combat experiences have declined. The pattern of combat experiences reported by Soldiers reflects the changing nature of the war from one of static operations in 2005 to more of a counter-insurgency (COIN) nature in 2007. Additionally this provides evidence that Soldiers' exposure to potentially traumatic combat experiences has increased in OEF.

Table 6: Adjusted Percents for Male, E1-E4 in Theater 9 Months

Combat Experiences	Values		
	OEF 2005	OEF 2007	p-value
Significantly Higher			
Being attacked or ambushed.	49.6%	61.6%	0.00
Seeing dead bodies or human remains.	50.7%	59.2%	0.01
Seeing dead or seriously injured Americans.	44.7%	55.2%	0.00
Knowing someone seriously injured or killed.	65.9%	73.7%	0.01
Being in threatening situations where you were unable to respond because of the ROE.	34.6%	44.2%	0.00
Being wounded/injured.	5.5%	13.7%	0.00
Receiving incoming artillery, rocket or mortar fire.	71.3%	81.5%	0.00
Being directly responsible for the death of an enemy combatant.	13.3%	21.0%	0.01
Had a close call, was shot or hit but protective gear saved you.	3.0%	8.0%	0.01
Significantly Lower			
Seeing destroyed homes and villages.	63.3%	50.1%	0.00
Working in areas that were mined or had IEDs.	72.6%	64.3%	0.00
Disarming civilians.	42.7%	28.7%	0.00
Clearing/searching homes or buildings.	53.1%	32.3%	0.00
Clearing/searching caves or bunkers.	45.3%	31.2%	0.00
Seeing ill/wounded women and children who you were unable to help.	46.9%	33.3%	0.00

29.1.2 Combat Events for OEF 2007 Compared to OIF 2007

Table 7 provides the percents for items rated in OEF 2007 that significantly differed from OIF 2007. As outlined above, the table below only lists results with a p-value equal to or less than .01 in order to minimize the likelihood of overstating differences.

Table 7: Complete OEF 2007 Soldier Well-Being Sample (Adjusted Percents)

Combat Experiences	Values		
	OIF 2007	OEF 2007	p-value
Significantly Higher			
Being attacked or ambushed.	53.1%	59.5%	0.01
Seeing dead or seriously injured Americans.	46.1%	52.7%	0.01
Calling in fire on the enemy.	12.6%	21.1%	0.00
Clearing/searching caves or bunkers.	17.1%	29.8%	0.00
Significantly Lower			
Seeing destroyed homes and villages.	64.7%	51.3%	0.00
Receiving small arms fire.	60.2%	53.5%	0.00
IED/Booby trap exploded near you.	53.2%	39.1%	0.00
Disarming civilians.	35.2%	26.1%	0.00
Clearing/searching homes or buildings.	53.7%	32.3%	0.00
Having a member of your unit become a casualty.	55.3%	48.9%	0.01

These ratings indicate that OEF 2007 Soldiers are experiencing combat in Afghanistan at levels as high as in Iraq. As mentioned earlier, the OEF 2007 sample contained data from BCT units as well as supporting task forces whereas the OIF data were collected only from Soldiers in BCTs. Therefore additional analyses were run to compare combat experiences for Soldiers in OEF BCTs to those of Soldiers in OIF BCTs. Table 8 presents these values.

Table 8: BCT Soldier Combat Experiences (Adjusted Percents)

Combat Experiences	Percent OIF 2007	Percent OEF 2007 BCTs	p-value
Being attacked or ambushed.	52.2%	75.1%	0.00
Receiving small arms fire.	59.7%	70.3%	0.00
Seeing dead bodies or human remains.	60.8%	74.4%	0.00
Handling or uncovering human remains.	29.7%	44.8%	0.00
Witnessing an accident which results in serious injury or death.	37.0%	47.7%	0.00
Witnessing violence within the local population or between ethnic groups.	37.8%	46.2%	0.01
Seeing dead or seriously injured Americans.	46.3%	63.7%	0.00
Knowing someone seriously injured or killed.	72.3%	87.4%	0.00
Participating in demining operations.	22.2%	37.8%	0.00
Having hostile reactions from civilians.	45.6%	58.8%	0.00
Being in threatening situations where you were unable to respond because of the ROE.	41.8%	54.3%	0.00
Shooting or directing fire at the enemy.	38.5%	62.7%	0.00
Calling in fire on the enemy.	11.9%	31.0%	0.00
Clearing/searching caves or bunkers.	16.4%	51.2%	0.00
Being wounded/injured.	11.9%	24.4%	0.00
Receiving incoming artillery, rocket or mortar fire.	80.7%	91.6%	0.00
Being directly responsible for the death of an enemy combatant.	13.7%	32.8%	0.00
Observing abuse of Laws of War/Geneva Convention.	6.2%	11.2%	0.01
Having a member of your unit become a casualty.	54.5%	76.5%	0.00
Had a close call, dud landed near you.	25.0%	38.0%	0.00
Had a close call, equipment shot off your body.	4.6%	15.2%	0.00
Had a close call, was shot or hit but protective gear saved you.	6.4%	12.9%	0.00
Had a buddy shot or hit who was near you.	16.6%	24.6%	0.01
Informed unit members/friends of a Service Member's death.	10.5%	22.2%	0.00

Comparisons of these rates indicate a significantly higher level of combat activity for Soldiers in BCTs in OEF 2007 than for Soldiers in BCTs in OIF 2007. What this comparison shows is that although overall combat experiences are similar in OEF 2007 and OIF 2007, the level of combat in BCTs (the units most involved in direct combat), was actually higher in OEF.

29.2 Deployment Concerns

Combat experiences are intense events that put Soldiers at risk for mental health problems. From a behavioral health perspective, however, less dramatic chronic concerns related to being deployed have also been shown to negatively relate to health. Indeed, in some ways less dramatic, chronic concerns may have more of a negative influence on health than intense, vivid events (an argument made by Gilbert, Lieberman, Morewedge, and Wilson, 2004 in an article entitled “The Peculiar Longevity of Things Not So Bad”).

All MHAT surveys capture less dramatic, chronic events with a series of eleven deployment concerns rated on a scale from 1 (very low trouble or concern) to 5 (very high trouble or concern). These eleven deployment concerns are listed below.

12. Being separated from family
13. Illness or problems back home

14. Boring and repetitive work
15. Difficulties communicating back home
16. Uncertain return date
17. Lack of privacy or personal space
18. Lack of time off, for personal time
19. Not having the right equipment or repair parts
20. Not getting enough sleep
21. Continuous operations
22. Long deployment length

29.2.1 Specific Concerns for OEF 2007 Compared to OEF 2005 and OIF 2007

To determine how OEF 2007 Soldier concerns differ from OEF 2005 and OIF 2007, a series of analyses similar to those for combat experience were conducted. As mentioned above in the combat experiences section, time in theater can significantly impact Soldier concerns. Therefore the data for this section were evaluated with adjusted values and are presented below in Table 9. Asterisks (*) in the table indicate significant differences from the OEF 2007 sample. Because fewer comparisons were run (compared to the combat experiences section above), any test with a p-value of less than 0.05 is considered statistically significant.

These data indicate a significantly higher level of concerns raised by Soldiers in OEF 2007 compared to OEF 2005. Seven of the eleven items are significantly higher than 2005 and the remaining items were similar or slightly, but not significantly higher in 2007. Interestingly, comparisons between OIF 2007 and OEF 2007 indicate a high degree of similarity between the two theaters. Response rates were not significantly different for 9 of the 11 items. The only significant differences were a higher level of concern for privacy/personal space issues in OIF 2007 compared to OEF 2007 and higher rates of concern about poor equipment in OEF 2007 compared to OIF 2007. This mirrors reports noted in the focus groups. Soldiers often stated that they felt that resources, including equipment or repair parts, in OEF were lacking compared to those in OIF.

The rank order of items that were most concerning was similar for all three populations. In particular, long deployment length and engaging in boring and repetitive work were the top 2 ranked items on the list for all three theaters. In short, deployment length and family separation were the major concerns reported by the sample as a whole.

Table 9: Deployment Concerns (Adjusted Percents).

Trouble or Concern Caused By	Percent Rating High or Very High		
	OEF 2005	OIF 2007	OEF 2007
Being separated from family.	38.1%	43.2%	41.8%
Illness or problems back home.	23.8%	23.9%	24.0%
Boring and repetitive work.	39.3%*	44.4%	48.9%
Difficulties communicating back home.	17.3%*	22.6%	25.7%
Uncertain redeployment date.	29.3%*	42.3%	41.5%
Lack of privacy or personal space.	36.9%	44.0%*	38.8%
Lack of time off, for personal time.	35.7%	40.6%	40.6%
Not having the right equipment or repair parts.	21.6%*	25.5%*	31.2%
Not getting enough sleep.	21.1%*	31.9%	33.6%
Continuous operations.	24.9%*	34.7%	36.5%
Long deployment length.	51.4%*	59.0%	61.3%

* indicates statistically significant difference from OEF 2007

29.3 Effect of Multiple Deployments

Previous MHAT reports have identified multiple deployments as a risk factor for behavioral health problems. In the earlier reports, analyses have examined the effects of multiple deployments by comparing first-time deployers with those who had deployed at least one previous time. In presenting the results related to multiple deployments, values are presented for NCOs rather than for junior enlisted (E1-E4) Soldiers. This was done because Soldiers in the multiple-deployer group are predominantly NCOs. Specifically, in the first-time deployer group, 72% were junior enlisted, 21% were NCOs, and 7% were officers. For multiple-deployers, 26% were junior enlisted, 65% were NCOs, and 9 were officers.

For NCOs in OEF 2007, 9.8% of first time deployers screened positive for any mental health problem whereas 14.2% of NCOs who had previously deployed screened positive. This difference was significant (one tailed, $p < 0.05$). This is consistent with the findings from previous MHATs and identifies another risk factor that can affect the behavioral health of Soldiers.

29.4 Sleep Deprivation

Overall, 31% of OEF 2007 Soldiers reported high or very high concern that they weren't getting enough sleep. Nearly one-quarter of OEF 2007 Soldiers reported falling asleep during convoys. Additionally, 16% of OEF 2007 Soldiers reported taking mental health medications and approximately 50% of those were sleep medications.

29.4.1 Sleep and Reports of Accidents and Mistakes

In addition to health, sleep deprivation has a known negative link to performance. Indeed, even relatively small amounts of sleep deprivation show a cumulative performance decline over time (Belenky et al., 2003; Bliese, et al, 2006; Van Dongen et al., 2003). The relationship between sleep and performance can also be assessed by examining Soldiers' responses to the item "During this deployment, have you had an accident or made a mistake that affected the mission because of sleepiness?" Six percent (6%) of OEF 2007 Soldiers reported they had an accident or made mistakes during the deployment due to sleepiness.

29.5 Summary of Risk Factors

The intensity of combat in OEF 2007 was significantly higher than in OEF 2005. As a whole, Soldiers deployed to OEF in 2007 have clearly witnessed a high degree of intense combat and experienced significant levels of combat activity. Additionally, many of the reported rates for OEF 2007 are on par with the OIF 2007 theater. These rates are particularly significant when comparing rates from OEF 2007 Soldiers in BCTs to Soldiers in OIF 2007 BCTs. In fact, the rates for OEF 2007 BCT Soldiers are significantly higher than those of OIF 2007 on 24 of the 33 scale items and rates for the remaining 9 items were similar for both theaters.

There was also a significantly higher rate of non-combat, deployment related concerns raised by Soldiers in OEF 2007 compared to OEF 2005. Rates for the majority of items on this scale were significantly higher in OEF 2007 than OEF 2005 and the remaining items were similar or slightly higher. Interestingly, comparisons between OIF 2007 and OEF 2007 indicate a high degree of similarity between the two theaters on non-combat deployment concerns. Finally, there was a significant relationship between mental health problems and multiple deployments in the current sample. NCOs who had deployed more than one time were at increased risk for a mental health problem compared to those who were on their first deployment.

30. PROTECTIVE FACTORS

In the conceptual model used to guide this report, protective factors represent the area most amenable to intervention. In this section we examine unit social climate (leadership, readiness and cohesion), reducing stigma about behavioral health care, reducing barriers to behavioral health care, rest and relaxation (R&R), family and marital support, willingness to report ethical violations and training as protective factors.

30.1 Leadership, Readiness, and Cohesion

Social factors within platoons and companies presumably play a critical role in how well unit members respond to combat experiences. A memorable illustration of the importance of social factors in combat was recounted in Shils and Janowitz's (1948) description of the resiliency of the German *Wermacht* in World War II. Shils and Janowitz convincingly argued that the cohesion of the German units allowed them to maintain morale and performance under intense combat stressors.

Empirical evidence for Shils and Janowitz's proposition has been found in studies of Soldiers in both deployed and garrison settings. In military research, a common trend has been to deconstruct the social environment into separate components such as the leadership climate (Bliese & Castro, 2000) and training readiness (Jex & Bliese, 1999) and examine the protective effects of the separate climate dimensions. While this approach potentially pin-points relevant aspects of the social environment for specific situations, one limitation is that indices of social functioning tend to be highly related. For instance, units that have positive perceptions of unit leaders also tend to have high cohesion and high perceptions of readiness whereas units that are low in any one of these dimensions also tend to be low in the other dimensions.

One way to consider the inter-relationships among climate dimensions is to develop indices of social climate that encompass several different components. This approach is theoretically justified by research which suggests that separate ratings of the social climate load on a second-order factor described by whether individuals evaluate the work environment as personally beneficial or personally harmful (James & James, 1989).

In the current report, we examine the combined variables of cohesion, readiness and perceptions of NCO and officer leadership. All items were asked on five-point scales with three being a generally neutral response. To facilitate the presentation of results in the Tables, the combined climate measure is considered positive if the mean score was rated above "3".

Figure 9 shows that there was a decrease of 6 percentage points between OEF 2005 and OEF 2007 in ratings of positive climate for male E1-E4 Soldiers in theater for 9 months. While small in absolute terms, this value is statistically significant. There was no difference between OEF 2007 and OIF 2007.

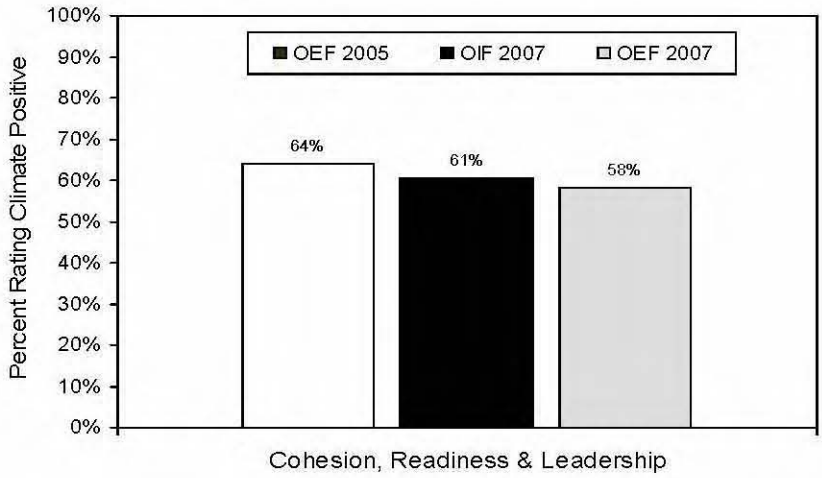


Figure 9: Unadjusted Rates for Social Climate

As mentioned earlier in the combat experiences section of this report, exposure to high levels of combat significantly increases the risk of reporting a mental health problem. Previous MHATs have found that good NCO leadership can, to some extent, limit the degree to which Soldiers screen positive for any mental health problem.

Figures 10 and 11 illustrate the importance of NCO and Officer leadership in terms of mitigating the effect of combat experiences on Soldiers' mental health. As Figure 10 illustrates, Soldiers who rate NCO leadership positively have lower levels of mental health problems than those who rate NCO leadership negatively regardless of the level of combat experiences. This pattern is also found when examining the impact of officer leadership on mental health rates, controlling for combat experiences (Figure 11). In summary, Soldiers who rate their leadership, both NCO and officer, highly are less likely to have mental health problems whether they experience high or low levels of combat.

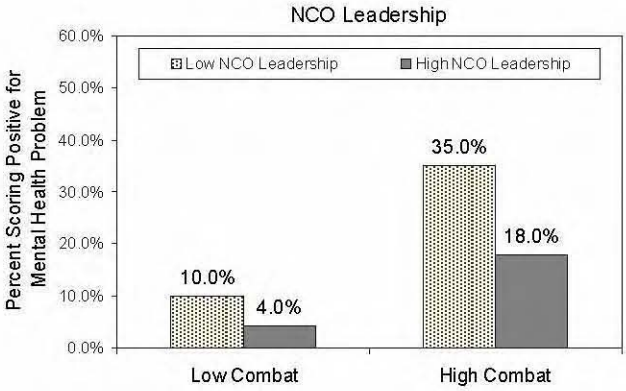


Figure 10: Unadjusted Rates for NCO Leadership

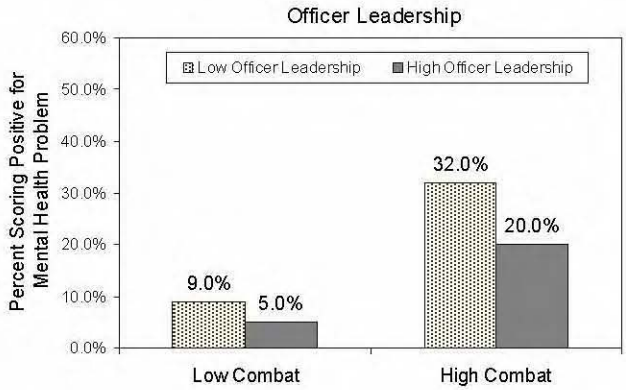


Figure 11: Unadjusted Rates for Officer Leadership

30.2 Willingness to Seek Care / Stigma

Another dynamic that is likely to serve as a protective factor is Soldiers' willingness to seek care, and a key impediment to seeking care is overcoming the stigma associated with receiving

behavioral health care. One of the challenges with providing behavioral health care is that stigma is strongest among individuals who screen positive for mental health problems (Hoge, et al., 2004). Therefore, when looking at changes in stigma, it is informative to examine those who screen positive for psychological problems. Table 10 provides the adjusted percents for male, E1-E4 Soldiers in theater 9 months who also screen positive for depression, anxiety or acute stress. Neither of the rates for OEF 2005 or OIF 2007 differed significantly from OEF 2007. The fact that rates have not changed significantly from 2005 suggests that more emphasis should be placed on outreach and education programs that emphasize reducing stigma.

Table 10: Stigma Concerning Behavioral Health Care for Soldiers Who Screen Positive for a Mental Health Problem (Adjusted Percents).

Factors that affect your decision to receive mental health services	Percent Agree or Strongly Agree		
	OEF 2005	OIF 2007	OEF 2007
It would be too embarrassing.	32.2%	32.0%	35.1%
It would harm my career.	37.4%	31.7%	31.2%
Members of my unit might have less confidence in me.	48.9%	44.9%	47.8%
My unit membership might treat me differently.	59.8%	53.7%	55.6%
My leaders would blame me for the problem.	43.7%	40.2%	43.9%
I would be seen as weak.	52.9%	52.2%	56.7%

30.3 Barriers to Care

Perceived barriers to care also vary depending upon whether a Soldier screens positive for a mental health problem such that those who screen positive typically report higher barriers to care. In the analyses comparing barriers across years and theaters, a number of perceived barriers are higher in the OEF 2007 sample compared to both OEF 2005 and OIF 2007. Table 11 provides the results using adjusted values. An asterisk (*) next to percentages for OEF 2005 and OIF 2007 indicates a statistically significant difference from the OEF 2007 sample. As the table indicates, perceived barriers to care have increased since 2005 and, in general, are higher in the present OEF theater than in OIF. The OEF theater has considerable transportation challenges that may contribute significantly to some of these findings. This limits the ability of behavioral health personnel to get to outlying posts as well as the ability of Soldiers to get back to behavioral health personnel at the larger FOBs. One recommendation from this report is to redistribute behavioral health personnel within OEF in order to increase BH contact with Soldiers located at smaller outposts.

Table 11: Barriers to Behavioral Health Care for Soldiers Who Screen Positive for a Mental Health Problem (Adjusted Percents).

Factors that affect your decision to receive mental health services	Percent Agree or Strongly Agree		
	OEF 2005	OIF 2007	OEF 2007
Mental health services aren't available.	21.4%	11%*	19.9%
I don't know where to get help.	17.2%	14.3%	15.1%
It is difficult to get an appointment.	17.4%*	21.3%	26.8%
There would be difficultly getting time off work for treatment.	43%*	43.4%*	56.3%
It's too difficult to get to the location where the mental health specialist is.	24.2%*	17.7%*	32.7%
My leaders discourage the use of mental health services.	19.5%*	21.8%*	33.0%

* indicates statistically significant difference from OEF 2007

30.4 Rest and Rehabilitation (R&R)

Rest and rehabilitation (R&R) is defined as a 3 or 4 day pass taken in theater or at an out of theater location(b)(2) R&R is different from the 2-week mid-tour leave that all Soldiers receive. Soldiers were also asked whether they had taken R&R during their deployment. Taking R&R can also serve as a protective factor for mental health problems. This question was not included in the OEF 2005 survey and therefore only comparisons between OEF and OIF 2007 are reported. In the 2007 sample, 68.5% of respondents in OIF 2007 reported not taking any R&R while 75.6% of OEF 2007 Soldiers reported not taking R&R. This difference was significant when comparing the raw values but when they were adjusted for gender, rank and time in theater the differences were not significant (73.4% for OIF and 71.0% for OEF). The average time in theater for Soldiers in OIF was almost 2 months longer than for Soldiers in OEF (9.4 vs. 7.7 months) which may significantly influence responses to this question and explain why the difference is not significant using adjusted values that include equaling the length of time in theater.

Interviews with Soldiers and behavioral health providers indicated that the immediate period after returning to theater from mid-tour leave was a difficult time for Soldiers both in terms of morale and mental health. Unfortunately, the survey does not ask specifically when mid-tour leave was taken relative to when the survey was completed. Future Soldier Well-Being surveys should consider asking both mid-tour leave and R&R dates in order to assess the length of time that has elapsed since the Soldier took mid-tour leave and R&R. By adding these items, it may be possible to model the effects of mid-tour leave and R&R on Soldier well-being.

30.5 Marital Satisfaction

Marital satisfaction may also be an indicator of overall behavioral health. In the behavioral science literature, social support from spouses and family members has often been found to be a protective factor in helping individuals cope with stress (Cohen & Wills, 1985). In addition, Soldiers' morale and well-being are affected by family issues back home. The Soldier Well-Being survey assesses Soldiers' perceptions of the quality of the marital relationship and Soldiers' perceptions of satisfaction with family support. Because family issues can be significantly influenced by deployment time, adjusted values are presented in this section. Overall reports of marital satisfaction were significantly lower in OEF 2007 than they were in

OEF 2005 (Table 12). Significantly fewer OEF 2007 Soldiers reported that they have "a good marriage", that "my relationship with my spouse makes me happy", and that "I really feel like a part of a team with my spouse" compared to Soldiers in OEF 2005. On these same questions, rates for OEF 2007 Soldiers were similar to OIF 2007 Soldiers.

Table 12: Marital Satisfaction (Adjusted Percents).

	Percent Agree or Strongly Agree		
Marital and Family Support	OEF 2005	OIF 2007	OEF 2007
I have a good marriage.	73.5%	66.8%	65.6%
My relationship with my spouse is very stable.	70.4%	63.5%	62.7%
My relationship with my spouse makes me happy.	75.8%	69.2%	67.7%
I really feel like a part of a team with my spouse.	73.3%	63.9%	63.6%

30.6 Reporting Ethical Violations

One of the potential deterrents against committing unethical behaviors is the degree to which Soldiers believe unethical behaviors will be reported by unit members. Soldiers' willingness to report unit members for unethical behaviors almost certainly runs counter to the strong sense of bonding that occurs among unit members during the deployment. Questions about reporting ethical violations were first included in MHAT OIF 2006 and therefore this report does not include data from OEF 2005. As Table 13 indicates, the rates for OEF and OIF 2007 are not significantly different. Not surprisingly, Soldiers are reluctant to report the ethical violations of unit members and this reluctance is consistent across theaters. Unadjusted rates were consistent with adjusted values.

Table 13: Reporting Ethical Violations (Adjusted Percents).

	Percent Agree or Strongly Agree		
Reporting Ethical Violations	OIF 2007	OEF 2007	p-value
I would report a unit member for the mistreatment of a non-combatant.	33.9%	33.2%	0.77
I would report a unit member for injuring or killing an innocent non-combatant.	40.8%	43.0%	0.33
I would report a unit member for unneccessarily destroying private property.	30.4%	31.7%	0.53
I would report a unit member for stealing from a non-combatant.	34.7%	37.6%	0.19
I would report a unit member for violating the Rules of Engagement.	35.7%	34.7%	0.63
I would report a unit member for not following General Orders.	35.9%	35.1%	0.71

30.7 Training

The final section on protective factors focuses on Soldiers' reports of whether or not they have received training and whether this training is perceived to have been effective. Soldiers were asked a series of questions about training including if they had received suicide prevention training within the last year. Slightly more Soldiers in OIF 2007 reported receiving this training (93.3%) compared to Soldiers in OEF 2005 (87.5%) or OEF 2007 (87.5%). Similarly, more Soldiers in OIF 2007 reported receiving training in managing the stress of deployment and/or combat prior to deployment (86.8%) than Soldiers in OEF 2007 (80.7%). Again, when asked about attending pre-deployment Battlemind training, slightly more OIF 2007 Soldiers reported receiving this (67.6%) compared to OEF 2007 (63.9%). These last two questions were not included in the OEF 2005 survey and, therefore, rates for these items are not available.

30.7.1 Training Adequacy for Deployment Stress and Suicide

As outlined above, a large majority of Soldiers reported receiving deployment stress and suicide prevention training. This section addresses the perceived effectiveness of training in these areas. Table 14 presents Soldiers' responses across years and theaters to questions about their perceived adequacy of suicide and deployment stress training. An asterisk (*) next to percentages for OEF 2005 and OIF 2007 indicates a statistically significant difference from the OEF 2007 sample. For all questions, rates for OEF 2007 were lower than either OEF 2005 or OIF 2007. The OEF 2007 rates were significantly lower than 3 of the 4 items in OEF 2005 and significantly lower that 2 of the 4 items in OIF 2007. The same significant differences were found with adjusted values. This finding points out the need for better suicide and deployment stress training for Soldiers deploying to OEF.

Table 14: Adequacy of Training (Unadjusted Percents).

	Percent Agree or Strongly Agree		
Adequacy of Suicide and Stress Training	OEF 2005	OIF 2007	OEF 2007
I am confident in my ability to help Service Members get mental health assistance.	79.5%*	66.0%	67.7%
The training in managing the stress of deployment and/or combat was adequate.	48.6%*	46.7%*	38.6%
I am confident in my ability to identify Service Members at risk for suicide.	60.6%	60.0%	59.1%
The training for identifying Service Members at risk for suicide was sufficient.	58.9%*	58.3%*	50.9%

30.7.2 Training Adequacy for Ethics

The final aspect of training evaluated in the Soldier Well-Being survey assessed ethics training both in terms of (a) whether the Soldier recalled having the training, and (b) whether the training was adequate. Adequacy was evaluated both by directly asking if it was adequate, and also by asking if the Soldier had encountered situations that were ethically difficult despite the training. Table 15 provides results from OIF 2007 and OEF 2007. Significantly fewer Soldiers in OEF 2007 reported having received the training and that the training was adequate. Additionally,

fewer Soldiers reported that training made it clear how they should behave towards non-combatants.

Table 15: Adequacy of Ethics Training (Adjusted Values)

	Percent Responding Yes		
Ethics Training	OIF 2007	OEF 2007	p-value
I received training in the proper (ethical) treatment of non-combatants.	81.1%	71.5%	0.00
The training I received in the proper (ethical) treatment of non-combatants was adequate.	79.9%	69.6%	0.00
I encountered ethical situations in which I didn't know how to respond.	28.1%	24.6%	0.11
I received training that made it clear how I should behave towards non-combatants.	84.4%	74.2%	0.00

30.8 Summary of Protective Factors

Both NCO and officer leadership were shown to be protective factors in mitigating the effect of combat on Soldiers' mental health. Alternatively, Soldiers reports of stigma and barriers to BH care were higher in OEF 2007 compared to OEF 2005 and OIF 2007. This may largely be due to transportation difficulties in Afghanistan. Additionally, fewer OEF 2007 Soldiers reported that the training they received in preparing them for the stress of deployment, the training in identifying Soldiers at risk for suicide, and the training in ethical treatment of non-combatives were adequate compared to OIF 2007 Soldiers.

31. Behavioral Health Care Use

Interestingly, although OEF 2007 Soldiers reported higher stigma and barriers to receiving behavioral health care compared to OIF 2007 Soldiers, a higher percentage of OEF 2007 Soldiers sought help for their behavioral health problems. For individuals who screened positive for a mental health problem, significantly more OEF 2007 Soldiers (57%) reported receiving behavioral health care from a health care professional or Chaplain than Soldiers in OEF 2005 (43%) or OIF 2007 (40%). The breakdown of specialties that Soldiers who screened positive for a mental health problem sought care from is provided in Figure 12. Asterisks (*) in the figure indicate significant differences from the OEF 2007 sample.

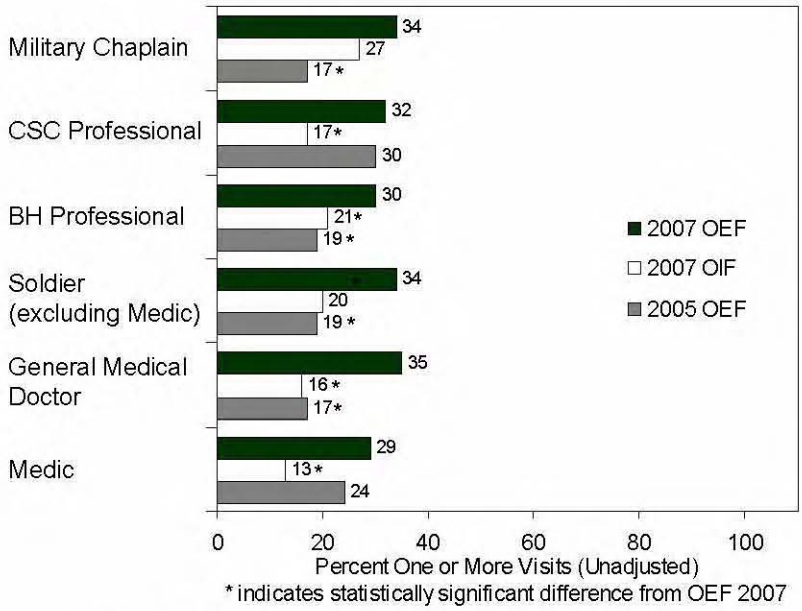


Figure 12: Behavioral Health Care Use During Deployment

32. Soldier Focus Groups

Ten focus groups were conducted with 51 Soldiers throughout the Afghanistan theater of Operations in October and November of 2007. Participants were informed that their participation was voluntary in that they did not have to answer any questions if they did not want to; that no personal identifying information was being gathered, and that their responses would be non-attributional with quotes attributed to "a Soldier/NCO". The focus groups followed a semi-structured interview schedule asking Soldiers about: quality of life, morale, coping with deployment stress (i.e., individual coping, buddy-aid and leader-aid in helping Soldiers through the deployment), families, the tour extension (if applicable to the unit participating in the focus group), perceptions of the mission, ethics training, behavioral health training, and recommendations for future training (ethics and mental health training). Typically, focus group interviews lasted from 60-75 minutes. At the conclusion, Soldiers were thanked for their participation and notes from the focus group session were typed up by the interviewers.

32.1 Quality of Life

Generally, quality of life problems were minimal but varied depending on the FOB/outpost. Although the U.S. Army has been in Afghanistan for nearly 7 years, there were Soldiers still living in non-hardened living quarters on some outposts. Soldiers reported this problem was getting better but there was difficulty getting contractors to come to the more remote FOBs due to the contractors expressing fear for their safety. This was especially true at the combat outposts (COPs) where contractors had been mortared and refused to stay at the location to complete the construction project. Additionally, Soldiers at one of the COPs reported needing heaters to warm their rooms during the cold winter months. Furthermore, units operating as embedded training teams (ETTs) noted that when living among the local Afghans, they had no electricity and no running water. Those who had previously deployed to Afghanistan said that "things are better this time around."

32.2 Morale

When focus group respondents were asked to rate their personal morale as very high, high, medium, low, or very low, the majority of responses were on the low or very low end of the scale. A typical answer was that morale was "double thumbs down" or "very low". Soldiers cited many reasons, including the continual occurrence of casualties in the unit, long deployment length, high OPTEMPO, family issues at home, and boredom. However, one unit reported high morale due to being near their time to go home.

Many Soldiers reported that morale was low due to being in Afghanistan compared to Iraq and it being "the second class citizen war." Iraq was referred to as the "media darling" and Afghanistan as the war that nobody cares about. One Soldier told us that a fellow Afghanistan veteran was home in a bar when a person asked where he had returned from; when the Soldier responded "Afghanistan", the person asked "what part of Iraq is that?"

32.3 Coping with Deployment/Job Stress

When asked what they did to maintain their morale and/or cope with the stress of the deployment, nearly all Soldiers said that they frequently spent time working out in the gym. Another common response was that Soldiers joked with each other and made fun of each other

to cope with the stress. Other ways to cope included: movies, attending religious services, playing cards and games, computer gaming (X-box), music, sleep, playing practical jokes, organized sports such as team softball, basketball, and "just bull-shitting with each other." Communication back home was often cited, but some Soldiers reported that talking to their spouse sometimes made things worse and added more stress. Soldiers on the more remote COPs reported a lack of MWR facilities.

"Garrisonized environment takes away from personal time. We are already working 10-15 hour days, and then we have to wake up at 0500 to do organized PT. It makes no sense." Alternatively, one battalion reported how morale was much better due to leadership cutting out some of the "bullshit stuff" such as allowing Soldiers to buy (& the unit paid for) any kind of boot they wanted in order to make their feet comfortable while walking in the mountains every day.

When Soldiers were asked what they did to look out for each other, common responses were: making sure they use MWR and having them keep contact with loved ones. Soldiers also reported that they talked with each other to maintain morale. One group reported "we are part of a team and the team looks out for each other." NCOs were also asked what they did to take care of their subordinates, some NCOs went to the gym with their Soldiers, one NCO said he took his Soldiers to lunch about once a week; another NCO reported simply "I encourage them."

Soldiers and NCOs were also asked what, if anything, their leaders could do to help Soldier morale during the deployment. Communication and information-flow were often mentioned as things that leaders could do better to help Soldiers. Additionally, Soldiers want their leaders to know what jobs their Soldiers were doing and ask about their families. Soldiers would like to have more time to do "personal stuff" and some downtime. It was not uncommon for Soldiers to say they did not have a single day to themselves in 6 months. This was reported mainly by Soldiers at the remote FOBs/COPs. As previously mentioned, Soldiers requested that "garrison environment" things such as "washing trucks that are going to get dirty right away" and "mandatory PT like in garrison when this is not garrison be eliminated."

32.4 Families

In the focus groups, interviewees were also asked about how their families were doing. Some Soldiers reported that their families did not understand what was going on in Afghanistan. One Soldier reported that he believed that "most people lie to their families about what's going on here" and added "how do you explain this?"

Spouses were described as "stressed". An extreme example of this was one Soldier who reported "My wife cried every time I called for an entire year." Alternatively, some Soldiers reported their families were doing well and that they got "good support back home." One Soldier stated that the deployment was tough on his children saying "my kids wonder where their daddy is everyday."

A general theme expressed by Soldiers at the remote FOBs/COPs was that spouses were depressed and scared due to the high number of casualties. The death notification process was raised as an issue in several groups with Soldiers expressing horror when a Spouse was mistakenly told her husband had been killed.

At (b)(2) communicating back home is not a problem for Soldiers. One Soldier there said "I look forward to calling home everyday." However, some

Soldiers talked about the communication paradox, reporting that "contact with family is good and bad though. Hearing about issues but not being there to help is a problem."

32.5 Tour Extensions

Among those in units affected by the tour extension while already deployed, there was near total consensus among focus group interviewees that the tour extensions had placed a significant burden on everyone: themselves, their colleagues, Soldiers, leaders and on their families. A Soldier simply stated that "we found out we were extended to 15 months after we got here. It hurt. I would rather have known before." Another Soldier added "basically after we were here for 3 months we were told to reset the clock to zero." The tour extension was reported to be especially hard on the families.

One junior enlisted Soldier summarized what many in the focus groups thought when he said "when I saw the Secretary of Defense on TV announce that deployments were going to be 15 months, I felt like throwing the TV out the window. Last year we were here (in Afghanistan) and 12 months was too much. We got 3 extra days of leave and $3,000 more; that's a joke. We didn't get any of the incentives like $500 per month; that was cancelled." This sentiment was echoed by a senior officer who said that "that quote could come from anyone from the most junior private to all the colonels."

The result of the tour extension was shown by one NCO who reported "I hate the Army; the Army doesn't take care of me." Another NCO said "two weeks before we left, we found out it was 15 months. It may be possibly 18 months. I think it will be 18 months. I wanted to kill myself. Eighteen months out here and I'll go crazy." Alternatively, a few Soldiers expressed ambivalence, saying "some don't care; some are affected."

32.6 The Mission

When asked about their mission, most Soldiers responded with their frustration about fighting a counter-insurgency war and lack of communication about the mission. One Soldier reported "they say we're getting the job done but we don't see it. We're fighting an enemy more than 800 meters away. Recently it's closer. We've only positively identified 3 people (we killed). We don't see the enemy. If you take out the head guy somebody else takes over the next day and they're hitting us again." Another Soldier echoed the lack of knowledge of mission success by saying "Is the mission successful? Yes, but we don't know what is going on outside the wire." This was further stated by an NCO who said "don't know how the mission is going, we just do our job." In terms of how the mission is going, our 'intel is no tell'. The command does not give any information to us about how the mission is going."

Another theme was the unexpected nature of the mission and the difficulty of the size of the area of operations (AO). An NCO, talking about the mission, reported "it's a little different, worse because of where we're at. The activity and size of the AO is not what we expected." Another NCO stated that "the original mission is not what we are doing now."

Many Soldiers reported frustration with the local Afghan population. One Soldier said "the locals are just lazy with poor attention spans. A few want to learn but most don't. They just want to sleep. We are turning the country into a bunch of beggars." This was echoed by a NCO who stated "we should be teaching instead of babysitting." A junior enlisted Soldier reported "As soon as we leave they (the locals) will go back to the way they were." Finally, a common response when asked if the mission was a success was simply "no."

Additional frustration was reported in reference to the rules of engagement. One junior enlisted Soldier reported "We have so many restrictions that even if when we have solid intel about an enemy, we are not allowed to do anything about it until the enemy starts taking shots at us." Another Soldier stated "it's hard to get creative when you have ROE restraints."

32.7 Ethics and Future Training

Soldier focus group members were asked about ethical situations that they encountered during their tour. As mentioned previously, many Soldiers reported difficulty identifying combatants from non-combatants. One junior enlisted Soldier said "you know what separates the fighters from the non-fighters? A weapon in their hands. It's hard to distinguish the enemy from everyone else. We can only engage if they have a weapon."

The results were mixed when it came to whether the units had received ethics training. Many Soldiers said they had received training that was basically 'death by PowerPoint' training. The training was often deemed inadequate or a waste of time. One Soldier commented "a class isn't going to tell me what is right and wrong." Another junior enlisted Soldier added "it doesn't really help; It's all just there to cover their asses anyways. Choices will be made by the individual regardless of the class." An NCO reported that the training was minimal and "I feel like it did not apply to me or the mission here." Some Soldiers did not care for the presentation method, saying "the presentations and classes are done in such a way that they are not value added."

Some units reported they were trained for a deployment to Iraq, not Afghanistan. Soldiers in one unit stated "we were trained for Iraq. The last training we got was for going through villages." Another Soldier commented "training and briefings are Iraq focused."

There was also continued concern about ROEs and UCMJ, as one Soldier said "training covered how to act and what you can do but handcuffed us. I had to fire a warning shot once and all I could think about was whether or not I was going to get an Article 15 for doing it."

32.8 Behavioral Health Training

Focus group members were asked if they had received any behavioral health training prior to leaving on the deployment. The responses varied from "we got all the stuff" to "no."

When asked if they had received any behavioral health training during the deployment, most indicated they did not. A fairly common theme among the brigade combat team Soldiers was a lack of training and lack of faith in the behavioral health system, but faith in the unit members taking care of each other. One Soldier reported "there was no training since being here. The Brigade Psychologist is always out there. He goes to where the casualties are. No one wants to talk to the other mental health guys. The hardest part is to talk to them. What's it going to do? They just give medication. The best thing is the ability to communicate. They're (psych) not going to accomplish anything. We're out there all the time. You don't want to leave your buddies. This company is like family."

Nearly all Soldiers indicated that they had received suicide prevention training but the adequacy was questioned. One Soldier reported "the Chaplain gives suicide prevention classes. We had to do PTSD/TBI training. It was terrible. Training should be given by people who care. It was a waste of our time." Finally, another Soldier stated "it's hard to recognize the signs for suicide, since most people exhibit a lot of them after being here for a month or so." This was further

echoed by an NCO who commented "Most of the signs are the same as depression. If you paid attention to the warning signs you would think that everyone is suicidal that is depressed."

When asked what might be done in future mental health training to better prepare Soldiers to face challenges of the deployment. A Soldier stated that the units "need transition issues to focus on reintegrating back into the life we left." Some Soldiers reported that the training was too narrow and did not address Reserve Component Soldier issues. One Soldier responded that "PTSD is not the only issue we are dealing with. National Guard especially have different issues compared to Active Duty Soldiers. When we return we go back to different jobs and work with people that have no idea what we have been through. AD still have their unit when they go back. The transition for NG is very tough. The training is tailored to AD, not NG. Another Soldier said "classes help you ID issues but don't do anything to prevent or solve them. They only provide you a door to go to."

Another concern was that future training is futile. One NCO stated "You can't prepare for what we've seen." A unit in one of the most dangerous areas of Afghanistan reported that "the unit coming in needs to know this is a shit-show and worse than Iraq. (b)(2) (b)(2) The next guys are going to get fucked up. It's a stand up brigade; they need to know the first day, the shit's on."

A final comment on the transition back home after the deployment focused on the increased need for behavioral assistance; "fifteen months is too long (b)(2) Those who make it out will be doing drugs and drinking. The problems will come when we get back. When we can sit back, the problems will be in the whole battalion and with families. There's going to be discipline problems when guys think they're so bad after having been here." When asked for a solution, the Soldier responded "they did a good job with mental health after the last deployment but they're not ready for the number of dudes. They only have 2 helpers and there will be twice as many this time. They need at least 5 people. For the first 90-180 days they need a designated team to sift through this shit. It will be better after 3-4 months." An NCO further offered the idea of positioning behavioral health assets in Afghanistan prior to the end of the deployment. This NCO said "you need to get people out here who we can get to know now so we can open up to them when we get back. They need to be part of the team."

33. BEHAVIORAL HEALTH CARE SYSTEM ASSESSMENT

This section of the report discusses: (1) current behavioral health staffing and distribution in OEF 2007, (2) behavioral health survey methodology and results, and (3) behavioral health provider interview results.

33.1 Behavioral Health Staffing and Distribution

Within the theater of operations, personnel numbers for both behavioral health providers and military personnel are constantly changing as a function of deployment and re-deployment, operational requirements, and Soldier needs. For these reasons, it is important to recognize that the data presented below represent a snapshot of staffing and distribution in OEF as of OCT 2007.

Nonetheless, the overall ratio of military personnel to Behavioral Healthcare (BH) personnel in the OEF 2007 theater in OCT 2007 was 1: 651. This ratio is significantly higher than the ratio for OEF 2005 which was 1:1756 and slightly higher than the OIF 2007 theater which was 1:734. In terms of absolute numbers, the 29 BH personnel in OEF 2007 represents a significant increase since OEF 2005 (9 BH personnel).

Table 16 (below) provides the distribution of BH personnel by occupational specialty and branch of service for OEF 2005, OIF 2007, and OEF 2007. Although occupational specialties fluctuate across rotations, there has been an increase in the contributions of Navy and Air Force BH personnel to both the OIF and OEF theaters. In 2005 the Navy and Air Force had no BH assets in either theater. In 2007 they are providing support in both theaters and are the lead providers of BH in OEF. It is notable that the majority of BH personnel in OEF 2007 were Air Force personnel (62%) compared to OIF 2007, where the Air Force only provides 14% of the BH personnel. Although BH personnel from sister services have added significant resources to providing in-theater behavioral healthcare to OEF, there are cultural differences and a much shorter deployment time (6 months for Air Force vs. 15 months for Army) that affect the services provided. Prior to October 2007, the majority (approximately 38%) of BH personnel were located at (b)(2) However, in November 2007, under the direction of the (b)(2) Command Surgeon and the Combat Stress Control (CSC) Commander, the distribution of BH personnel throughout the Afghanistan theater was readjusted to provide far forward BH support to FOBs and outposts previously not supported.

Table 16: Distribution of BH specialties in OEF 2005, OIF 2007 and OEF 2007 by Corps.

	ARMY		
SPECIALTY	OEF 2005	OIF 2007	OEF 2007
Psychiatrist	2	21	0
Occ. Therapist	0	4	0
Behavioral Sciences	0	2	0
Psychiatric Nurse	0	13	0
Social Worker	1	25	2
Psychologist	1	21	1
OT Specialist	0	1	0
BH Specialist	5	96	7
TOTAL	9	183	10
	NAVY		
Psychiatrist	0	6	0
Psychiatric Nurse	0	0	1
Social Worker	0	0	0
Psychologist	0	3	0
BH Specialist	0	10	0
TOTAL	0	19	1
	AIR FORCE		
Psychiatrist	0	7	3
Psychiatric Nurse	0	3	1
Social Worker	0	4	3
Psychologist	0	4	4
BH Specialist	0	15	7
TOTAL	0	33	18
Theater Total	9	235	29

33.2 Behavioral Health Survey

This section of the report compares Behavioral Health (BH) survey responses for the OIF 2007 and OEF 2007 theaters. Comparisons between OEF 2007 and OEF 2005 were not drawn because the survey questions were not equivalent. The BH survey items for OIF and OEF were identical and therefore comparisons between these two populations are presented below.

In all, 23 BH surveys were completed and returned by OEF 2007 behavioral health providers. This represents a sampling rate of 79%. The rate for OIF 2007 was lower with 131 of the 235 BH providers in theater completing a survey (56%). Behavioral Health survey items focused on demographics, standards of practice, coordination of services, BH services provided, skills and training in relation to BH services, perceived stigma and barriers to BH care, methods to address Soldier BH needs, and personal well-being. Additionally, each survey also had a qualitative section for all respondents to write in the equipment / resources / supplies that would have improved their ability to complete their mission.

33.2.1 OEF 2007 Behavioral Health Survey Demographics

Demographics for BH personnel responding to the survey are shown in Table 17. There are notable demographic differences between OEF 2007 and OIF 2007. OEF 2007 BH personnel have been in theater significantly less time than OIF 2007 BH personnel (3.9 months vs. 8.9

months). When asked on the survey "approximately how many service members does your team support" the reported numbers were similar for OEF 2007 and OIF 2007 (5,597 vs. 5,396).

Table 17. Demographic list of surveyed BH Personnel in OEF 2007.

	Behavioral Health Survey Demographics
Sample Size	n = 23
Age (Mode)	30-39 years old*
Gender (Mode)	55 % Male
Rank (Mode)	61% Officer
Branch of Service (Mode)	61% Air Force
Component (Mode)	87% Active Duty
Average Months Deployed since 9/11	8.17
Average Number of Service Members supported by team	5,597
Average Hours spent per Week Outside FOB	2.91
Average Days per Month Living Outside FOB	4.91
Average Number of Locations your BH/COSC Team Supports	30.17

*Multiple modes exist. The median value is shown

33.2.2 Behavioral Health Survey Results

Results from the behavioral health survey indicate that there are significant differences between the two theaters (Table 18). The number of locations supported by OEF BH personnel and the time to travel to those locations is significantly different than OIF BH personnel. On average, BH teams in OEF support more locations than OIF BH teams. Additionally, it takes significantly more time to get to those locations in Afghanistan than in Iraq. As a result, 52% of OEF BH personnel reported having to cancel a mission due to the inability to travel compared to 28% of OIF BH personnel. Conversely, a similar percentage (30% vs. 25%) of BH personnel in OEF and OIF reported there were adequate BH assets in theater to cover the mission.

Table 18: Behavioral Health Locations	OIF 2007	OEF 2007	p-value
How many locations does your BH/COSC team support? (Mean)	9	30	0.001
On average, how many hours does it take to travel to the locations you support? (Mean)	8	39	0.001

One likely factor contributing to differences in travel hours between the two theaters is the geography of Afghanistan. This theater presents a significant challenge for ground movement due to the numerous mountain ranges and lack of road infrastructure. Therefore, air assets are the primary means of transportation and access to these are limited. Scheduling limitations and route changes for air travel rarely allow for short notice transportation arrangements between locations.

Due to the small number of BH providers in the OEF theater, statistical comparisons of many BH survey questions between OIF 2007 and OEF 2007 were limited. Therefore, theater specific responses to selected survey items in Table 19 are presented as descriptive percentages only.

Table 19: Significant differences between OIF 2007 and OEF 2007 of Behavioral Health Personnel Surveyed Respondents: OIF (n = 131), OEF (n=23)

	OIF 2007	OEF 2007
STANDARD OF CLINICAL CARE (Percent Agree or Strongly Agree)		
The standards of BH care are clear.	52%	61%
The standards for clinical documentation are clear.	42%	30%
The standards for records management are clear.	43%	26%
Commanders are satisfied with the amount of information I can provide	72%	61%
STANDARD OF CLINICAL CARE (Percent Agree or Strongly Agree)		
RESOURCES FROM COMMAND (Percent Agree or Strongly Agree)		
My higher HQ (command) provides us with the resources required to conduct our mission.	34%	52%
My higher HQ (command) encourages us to provide feedback/comments to theatre/AO BH/COSC policies	31%	61%
We coordinate/integrate our BH/COSC activities with primary care/med personnel in the battalion aid stations/medical companies.	77%	91%
WELL-BEING (Percent Agree or Strongly Agree)		
My ability to do my job is impaired by the stressors of depolyment/combat.	19%	4%
My mental well being has been adversly affected by the events I have witnessed on this deployment.	26%	13%
PSYCH MEDS AVAILABILITY (Percent Agree/ Yes)		
Level II Forward Support Medical Company.	71%	50%
COMBAT & OPERATIONAL STRESS		
I attended the pre-deployment COSC training course (Percent Yes)	52%	44%
I received adequate training pre-deployment to prepare me for COSC duties (Percent Agree/Strongly Agree)	31%	45%
DOING THEIR JOB (Percent Frequently or Always)		
Conduct command consultation.	71%	61%

33.2.3 Standards of Care / Combat and Operational Stress Control (COSC)

Although a higher percentage of OEF 2007 BH personnel reported that the standards of BH care were clear, fewer OEF BH personnel reported that the standards of clinical documentation and record management were clear compared to OIF 2007 BH personnel. During interviews with BH personnel, they reported there was no standardized reporting system for tracking BH workload such as the US Army COSC Workload and Activity Reporting System (COSC-WARS). When asked on the survey, only 13% of OEF BH personnel reported being confident in their ability to use COSC-WARS. These findings may be due to differing documentation requirements of the Air Force versus the Army. Additionally, the lack of clarity on documentation and record management may have been compounded by the fact that fewer of OEF BH personnel reported they attended the COSC Course.

33.2.4 Resources

Overall, support from higher headquarters was viewed in a positive light by OEF BH personnel. A higher percentage of OEF 2007 BH survey respondents reported that their higher headquarters provided enough resources to conduct the mission compared to OIF 2007 BH personnel. Similarly, more OEF 2007 BH personnel reported being encouraged by higher

headquarters to provide feedback on BH policies compared to OIF BH personnel. Additionally, more OEF 2007 BH personnel reported coordinating their BH activities with medical personnel and talking with unit medical personnel than OIF BH personnel.

33.2.5 Well-Being

As with primary care personnel, there has been a lot of concern about BH personnel burnout and decreased well-being. Across the board, BH personnel in OEF 2007 reported less burnout and better well-being. Thirteen percent (13%) of OEF 2007 BH personnel reported that their well-being was adversely affected by the events they had witnessed during the deployment compared to 26% of OIF 2007. Only 4% of OEF 2007 BH personnel agreed that their ability to do their job had been impaired by the stressors of the combat deployment compared to 19% of OIF 2007 BH personnel. Similarly, a greater percent of OEF BH personnel reported high morale (65% vs. 39%), high energy (44% vs. 31%), high motivation (74% vs.39%) and lower burnout (17% vs. 33%) compared to OIF 2007 BH personnel. This may be primarily due to OEF BH personnel being deployed an average of 4 months compared to 9 months for OIF BH personnel.

In order to gain more fidelity in the assessment of provider well-being and functioning, future BH (and Primary Care) surveys should include additional items. These include items about the number of deployments, duty and time at remote outposts, whether or not personnel are organic to their unit or PROFIS (Professional Officer Filler Information System) replacements, and the degree to which BH personnel are operating as one or two-person teams in supporting FOBs and multiple outposts.

33.2.6 Behavioral Health Functional Work

Survey responses revealed differences in the way BH care was delivered in OEF 2007 versus OIF 2007. OEF 2007 BH personnel reported that they conducted more (91% vs. 80% at least weekly) one on one BH counseling at the BH unit but less (32% vs. 39% at least weekly) BH counseling at the Service Members' worksites. Similarly, OEF 2007 BH personnel conducted COSC outreach less frequently (30% vs. 57% at least weekly) compared to OIF 2007 BH personnel. Additionally, fewer OEF 2007 BH personnel reported conducting command consultations (61% vs. 72% frequently/always) and fewer developed prevention and early intervention plans (36% vs. 49% frequently/always).

As previously mentioned, OEF BH personnel were predominantly Air Force whereas OIF BH personnel were predominantly Army. The pattern of the delivery of BH care reported above may be a reflection of the difference in the philosophy of the Air Force BH community compared to the Army BH community. Traditionally, the Air Force espoused a model of providing BH care on the base when their clients returned from missions. The Army BH care model pushes BH care forward to outlying areas where the Soldiers are located.

In sum, the picture as of November 2007 was one of OEF BH personnel conducting their missions mainly out of their CSC office, doing a limited number of command consultations and generally little BH outreach. Additionally, there was only a part-time BH consultant to the (b)(2) (b)(2) Command Surgeon and this consultant did not have any authority to make changes in the delivery of BH care in OEF. However, beginning in late November and December of 2007 and continuing through the time of this report, major changes have been made in how BH personnel conduct their mission. The CSC Commander developed and mandated an increased outreach program, formulated and implemented an early intervention program, implemented combat and operation stress control-workload and reporting system (COSC-WARS) to assist in managing

client information and as noted previously, realigned BH resources to cover more locations. Additionally, the (b)(2) Command Surgeon appointed the CSC Commander as the BH consultant and together they are working to optimize the delivery of BH care in OEF.

33.2.7 Equipment and Supplies Needed to Conduct the BH Mission

BH personnel were also asked to provide written comments on equipment or supplies that they were lacking that would improve their ability to conduct the mission. The most commonly requested resources were: (1) more personnel, (2) laptops, (3) vehicles, (4) office space, (5) cellular or satellite phones and (6) pamphlets.

33.2.8 Psychiatric Medications

It is not possible to conduct meaningful comparisons between OEF 2007 and OIF 2007 on the availability of psychiatric medications due to having only 3 OEF 2007 psychiatrists who could prescribe to the survey population. When asked about the availability of psychiatric medications at the three levels of care, 2 of 3 OEF 2007 psychiatrists reported that there was adequate availability at Level I (Battalion Aid Station) facilities and 1 of 2 (1 did not answer) at Level II (Forward Support Medical Company) and Level III (Combat Support Hospital). Finally, 2 of 3 psychiatrists reported that there was adequate availability of psychiatric medications in the area of operations (AO).

33.3 Behavioral Health Provider Interview Results

Interviews were conducted with five BH personnel. In general, the themes that emerged from interviews underscore the BH survey findings and also add depth and context to the survey results. The key content discussed included the role of the behavioral health specialist, common problems of Service Members seen by BH personnel, and Service specific issues. Additionally, there was one issue that was unique to Air Force BH personnel; CSC personnel do not always train together prior to a deployment. Finally, Battlemind Psychological Debriefings were not being conducted in OEF.

The role of the mental health specialist includes administrative tasks, NCO duties, front desk, triage, psychosocial histories, briefings, and classes (relaxation, cognitive skills, etc.). Techs that are forward (at FOBs) do "walk-arounds". Some are certified alcohol and drug addiction counselors.

It was reported that some mental health specialists do therapy but may not have the training to do so. One senior BH provider stated "It would be helpful if they could do it (therapy) but need more training. They can learn to do it for substance abuse, why not for other therapy. " When behavioral health specialists conduct therapy, the supervision and clinical oversight were done by a Ph.D. or MD officer. Some providers felt that training MH specialists to do therapy is oftentimes based on individual characteristics or capabilities of the specialist. Some may not be suited for that level of responsibility.

The most frequently identified problems reported by BH personnel varied by location and type of unit supported. For those (b)(2) who supported predominantly large FOB-based units, the most frequently seen problems were relationship issues with family members and unit leadership, and anger. For BH personnel at the more remote FOBs who supported the line units, the most common problems were Anxiety Disorder NOS (Not Otherwise Specified), and Combat Stress (PTSD). One provider reported "Soldiers stay functional but have symptoms.

Most common ranks seen are E5-E7, captains and majors. I also see Soldiers with Silver and Bronze Stars with valor." Additionally, a significant percentage of BH personnel reported that they were seeing Service Members with sleep problems and nightmares.

When asked if there were many evacuations for BH issues, a provider stated "yes, quite a few for psychotic breakdowns, chronic PTSD. Many of these Soldiers are sent to Afghanistan despite a doctor saying they shouldn't go or leaders knowing they shouldn't deploy. Some bi-polar patients and Soldiers having their first psychotic episode, such as Schizophrenia have to be evacuated." Another provider stressed how important it was that he "screened" his Soldiers for mental health issues before deploying and that his leadership supported his recommendations to not allow Soldiers at high risk (personality disorders or Axis I diagnoses) to deploy. Alternatively, another BH Provider reported her surprise at "the amounts of people deployed who shouldn't have. Doctors recommend they don't deploy or commanders know they shouldn't deploy. Soldiers have to fight for their health – they have chronic PTSD after 5 deployments. They are sent back to Landstuhl, Germany, and then sent to Fort Hood where they are sent back to Afghanistan. Soldiers want to be with their unit but can't do their job."

As noted earlier, service specific issues among the Army and Air Force were identified, such as the difference in philosophy of forward placement of BH assets. Additionally, shorter deployment length for Air Force BH personnel meant less time for Soldiers to learn to trust the Air Force BH personnel. One Psychologist reported "My dream would be to have the CSCs on the same rotations; we will go through 3 sets of teams and it takes time to get trust." The lack of a common culture among Army and Air Force personnel was identified by a provider who stated "the only problem is that the Air Force doesn't understand the Army system; need to understand Battle Space and how the Company Commander "owns the dirt"."

One senior Air Force BH provider identified a few issues that were unique to the Air Force BH personnel. "I would like the whole team (CSC) to train together prior to arriving in theater. Also have positions established before arriving in theater. Air Force has a policy in which 3 of the Air Force mental health are on 4 month rotations instead of the 6 month rotation the rest of the CSC is on. I would like them all to be on the same rotation schedule/length. Also, enforce the requirement that all Air Force personnel get combat skills training prior to arriving in theater so they can go outside the wire. As is, at least 1 provider does not go outside the wire. Non-combat skills trained Airmen can volunteer to go outside the wire but are not required to."

One additional area identified was the need for the theater BH consultant to the (b)(2) Surgeon to be formally defined. There was agreement among senior BH personnel and (b)(2) (b)(2 Command Surgeon staff that the role of BH consultant was unclear.

Finally, Battlemind Psychological Debriefings have been dictated as best clinical practice by the AMEDD Center & School and are the recommended form of debriefing when appropriate. However, OEF 2007 BH personnel were not conducting them as of NOV 07. Some BH personnel reported doing CISDs while others said they use more education following traumatic events. For instance, one BH provider stated "I don't use CISD, don't use that structure. I do psychoeducation and gathering of common trauma. Let Soldiers guide it. I work with the Chaplain. Let the Soldiers know the purpose. It depends on how long after (the event), may do a defusing. Work on anything they are stuck on. I do more individual therapy after." In summary, there was no standardized psychological debriefing policy in OEF. However, in JAN 08, as part of the new CSC Policy, the CSC Commander mandated that Battlemind Psychological Debriefings be done whenever debriefings are appropriate.

34. PRIMARY CARE SURVEY

34.1 Primary Care Survey Methodology

A census sampling design was employed for the Primary Care (PC) survey. That is, surveys were sent to Primary Care personnel throughout the OEF theater of operations and each was given an equal opportunity to complete and return surveys. Forty (n= 40) PC surveys were returned of the 50 distributed. The OEF 2007 sample size was lower than OIF 2007 (n = 135).

The OEF 2007 PC survey items were identical to OIF 2007 PC survey items. Survey items focused on demographics, standards of practice, coordination of services for BH cases skills, training and practice in relation to BH services, availability of psychiatric medications, and personal well-being. Additionally, each survey had a qualitative section for all respondents to write in the equipment / resources / supplies that would have improved their ability to complete their mission.

As with the BH surveys, chi-square tests of independence were calculated to see whether the percentages differed significantly between OIF 2007 and OEF 2007. Differences were deemed significant using the standard p. < .05 cut-off.

34.2 Primary Care Survey Demographics

Demographics from the Primary Care survey are listed in Table 20.

Table 20: Demographics of Primary Care Personnel in OEF 2007.

	Primary Care Survey Demographics
Sample Size	n = 40
Age (Mode)	30-39 years old
Gender (Mode)	78% Male
Rank (Mode)	63% Officer
Branch of Service (Mode)	70% Army
Component (Mode)	83% Active Duty
Average Months Deployed since 9/11	11.53
Average Number of Service Members supported by team	1,991
Average Hours spent per Week Outside FOB	14.72
Average Days per Month Living Outside FOB	5.13

Of note is that OEF 2007 PC personnel reported being in theater significantly less time than OIF 2007 PC personnel (5 months vs. 11 months). However, OEF PC personnel reported spending more days per month (5 vs. 2) living at Forward Operating Bases (FOBs) and spending more hours per week (15 vs. 6) outside the wire than did OIF PC personnel.

34.3 Primary Care Role in Mental Health

OEF 2007 Primary Care (PC) personnel reported no significant differences from OIF PC personnel on questions assessing their role in providing behavioral health care. For example,

approximately 40% of PC personnel in OEF and OIF reported helping Service Members with mental health problems at least weekly. There was a trend toward OEF PC personnel referring Service Members with mental health problems more often than OIF PC personnel (37% vs. 25%). However, this difference was not significant.

Table 21: Role of Primary Care Providers in Behavioral Health (Unadjusted Percents).

	OIF 2007	OEF 2007
COMBAT AND OPERATIONAL STRESS CONSULTING (Percent Agree or Strongly Agree)		
During this deployment how frequently did you:		
Help Service members with a mental health problem weekly.	40%	40%
Refer Service Members with problems to mental health personnel weekly?	25%	37%
PSYCH MEDS (frequency of event)		
During this deployment how frequently do you prescribe meds for depression (monthly).	64%	63%
During this deployment how frequently do you prescribe meds for sleep problems (weekly).	52%	56%
During this deployment how frequently do you prescribe meds for anxiety (monthly).	60%	63%

34.4 Provider Well-Being and Burnout

There were very few significant differences in OEF 2007 PC personnel well-being (as assessed through the survey) when compared to OIF PC personnel well-being. In general, morale, mental well-being, and job impairment due to deployment stress/experiences, and perceptions of burnout remained unchanged compared to OIF PC personnel. One exception is that OEF PC personnel reported higher levels of motivation (55% high/very high motivation vs. 33% in OIF).

As with the survey of Behavioral Health personnel, future Primary Care surveys should include items such as the number of deployments, duty and time at remote outposts, whether or not personnel are organic to their unit or PROFIS (Professional Officer Filler Information System) replacements. Moreover, coordination with other MEDCOM organizations studying provider fatigue and burnout should occur so that richer data may be collected in order to best inform policy and best-practice decisions.

34.5 Psychiatric Medication in OEF

Primary Care personnel in OEF 2007 reported some ambiguity in the logistics of psychiatric medications. Thirty-five percent (35%) of OEF PC personnel vs. 59% of OIF PC personnel reported that the procedures for ordering and replenishing psychiatric medications in the Afghanistan theater of operations were clear.

34.6 Resources

Primary Care respondents also wrote in comments regarding equipment or supplies they felt would have improved their mission. Key concerns are summarized: (1) better functioning and connectivity to MC4 computers, (2) better X-ray capabilities, (3) fully stocked pharmacies, (4) more behavioral health personnel, (5) various medical equipment such as defibrillators, (6) better troop medical clinics (TMCs), (7) more training, and (8) more PC providers.

35. UNIT MINISTRY TEAM SURVEY

35.1 Unit Ministry Team Survey Methodology

A census sampling design was employed for the Unit Ministry Team (UMT) survey. That is, surveys were sent to Unit Ministry Team personnel throughout the OEF theater of operations and each was given an equal opportunity to complete and return surveys. Twenty-four (n= 24) UMT surveys were returned out of 25 distributed. The OEF 2007 sample size was smaller than the OIF 2007 sample (n = 83). All comparisons in this section will be made to OIF 2007. UMT data were not collected in OEF 2005 and therefore comparisons to this population are not included here.

OEF 2007 UMT survey items were identical to OIF 2007 UMT survey items. Survey questions focused on demographics, coordination of services, religious activities, skills and training, service member needs, and personal well-being. Additionally, each survey also had a qualitative section for all respondents to write in the equipment / resources / supplies that would have improved their ability to complete their mission.

As with the BH and PC surveys, chi-square tests of independence were calculated to see whether the percentages differed significantly between OIF 2007 and OEF 2007 UMT survey responses. Differences were deemed significant using the standard p. < .05 cut-off. Unit Ministry Team demographics are presented in Table 22.

Table 22: Demographics of Unit Ministry Team Personnel in OEF 2007.

	Unit Ministry Team Survey Demographics
Sample Size	n = 24
Age (Mode)	40+ years old
Gender (Mode)	91% Male
Rank (Mode)	50% Officer
Branch of Service (Mode)	71% Army
Component (Mode)	67% Active Duty
Average Months Deployed since 9/11	15.35
Average Number of Service Members supported by team	807
Average Hours lived per Week Outside FOB	23
Average Days per Month Living Outside FOB	5

35.2 Unit Ministry Team Results

Although on average, OIF 2007 UMT members reported on the survey that their team supported more Soldiers (2,178 vs. 807) than OEF 2007 UMT members, OEF 2007 UMTs supported more locations (24 vs. 11). In addition, during interviews, both Chaplains and Chaplain Assistants reported having great difficulties traveling to the more remote locations they supported.

Significant percentage differences between OIF 2007 and OEF 2007 UMT items are displayed below in Table 23.

Table 23: Unit Ministry Team Coordination

	Percent Frequently or Allways		
	OIF 2007	OEF 2007	p-value
COORDINATION WITH UNIT PERSONNEL (% Frequently or always)			
Talk with units behavioral health/COSC personnel	52%	17%	0.01
Talk with units medical personnel.	86%	63%	0.05

Overall, there were very few significant differences between responses reported in OIF 2007 and OEF 2007. This may be due to the small number of UMTs surveyed in OEF 2007. However, a pattern emerges in which the level of coordination between UMT personnel and both behavioral health personnel and medical personnel is significantly lower in OEF. The percentage of respondents in the OEF 2007 UMT survey who reported that they frequently or always talked with the behavioral health personnel was significantly lower than in OIF 2007. Similarly, the percentage of respondents in the OEF 2007 UMT survey who reported that they frequently or always talked with the medical personnel was significantly lower than in OIF 2007. These data highlight the need for UMT personnel to communicate more frequently with leadership and medical personnel when conducting their mission.

Unit ministry team personnel in OEF 2007 reported significantly higher (75% vs. 43% high or very high) levels of energy than OIF 2007 UMT personnel. Additionally, OEF UMT personnel reported lower (17% vs. 25%) rates of burnout than OIF 2007 personnel. These findings suggest that Chaplains may have the necessary reservoir of energy and low burnout needed to do a greater amount of coordination as recommended above.

36. MILITARY TRANSITION TEAMS MENTAL HEALTH AND WELL-BEING

The OEF 2007 MHAT surveyed 190 Soldiers from Task Force (b)(6), (b)(2) (b)(2)

Task Force (b)(2) Soldiers were older than (b)(2) BCT Soldiers with 59% of TF (b)(2) being over 30 years old compared to 15% of (b)(2) BCT Soldiers. They had a higher percentage of NCOs (44%) compared to the (b)(2) BCTs (31%). Additionally, a higher percent were married (54% vs. 39%). Finally, TF (b)(2) Soldiers had been in theater less time (5.5 months vs. 7.7 months), reported fewer combat experiences than (b)(2) BCT Soldiers (i.e. 57% had received incoming artillery, rocket or mortar fire compared to 84% of (b)(2) BCT Soldiers) and reported less concern about non-combat deployment stressors (i.e. 33% high or very high concern about long deployment length compared to 64% of (b)(2) BCT Soldiers). These factors are normally associated with better mental health.

TF (b)(2) Soldiers had higher individual morale (42% vs. 19%) and unit morale (17% vs. 12%) compared to (b)(2) BCT Soldiers. A higher number of TF (b)(2) Soldiers reported using alcohol while in theater (10% vs. 5%). Overall, TF (b)(2) Soldiers were less likely to screen positive for a mental health problem than other (b)(2) BCT Soldiers (7% vs. 20%). Fewer TF (b)(2) Soldiers reported symptoms of depression (4% vs. 11%), anxiety (4% vs. 10%), and acute stress (5% vs. 15%) than (b)(2) BCT Soldiers. Additionally, few TF (b)(2) Soldiers reported stigma and barriers to receiving behavioral health care. For example, 17% of TF (b)(2) reported having difficulty getting time off work for treatment compared to 35% for (b)(2) (b)(2 BCT Soldiers.

Ratings of officer and NCO leadership were lower in TF (b)(2) compared to (b)(2) (i.e. 30% vs. 41% reported that their leadership often or always treated all members of the unit fairly). For example, a significantly lower percentage (46% vs. 57%) of TF (b)(2) Soldiers reported their officers were concerned about their safety compared to (b)(2) Soldiers. Similarly, a lower percentage (35% vs. 45%) of TF (b)(2) Soldiers reported their NCOs exhibited clear thinking and reasonable action under stress compared to (b)(2) Soldiers. Both officer and NCO leadership were identified in interviews as areas that Soldiers thought showed room for improvement. This is especially important considering the finding that TF (b)(2) Soldiers who reported they had good officer leadership were significantly less likely (3% vs. 11%) to screen positive for a mental health problem compared to those who reported they had poor leadership.

During interviews with BH and PC personnel several common themes emerged. First was the lack of support from their higher headquarters. (b)(2) (b)(2) (b)(2) The higher headquarters did not require nor receive any

medical or mental health reports, delegated all medical decisions, and did not provide any behavioral health support.

Although absolute rates of combat experiences and mental health problems in TF (b)(2) were lower than in (b)(2) BCTs, there were significant events experienced that included 15 killed in action (KIAs) within the first 6 months. That number is twice as high as the number of KIAs in the brigade that served as the previous transition team in OEF had in their entire year-long deployment. Another issue identified was the lack of a relief in place (RIP) overlap time with the previous brigade and that brigade did not identify any plan for providing behavioral health care.

Having sister service (non Army) providers working in an Army Brigade Combat team also presented challenges for the delivery of behavioral health to TF (b)(2) One provider voiced major challenges by saying "this (TF (b)(2) is an Army world. I had no prior training on how to provide mental health in an Army environment. It's problematic, Army paperwork for Command Evaluations, drugs, Article 15s. Soldiers have to go to (b)(2) for command evals. I didn't know any of the Army paperwork or terminology; it's been a steep learning curve."

When asked about the adequacy of BH staffing in TF (b)(2) one of the BH personnel responded with "we're grossly under resourced. TF (b)(2) has about (b)(2) we need more than 3 (behavioral health personnel). Need one at each of the major FOBs and the regional corps headquarters needs behavioral health also. We need 6 teams of 2 each." Due to the shortage of personnel, one provider reported "I haven't been able to do any prevention; I had it as a priority." TF (b)(2) providers agreed with the (b)(2) BH staffs' comments about the difficulty traveling to the FOBs where TF (b)(2) Soldiers lived and worked. It was also very difficult to provide BH support to Embedded Training Team Soldiers as they spend a majority of their time living with Afghan National Army or Afghan National Police. Due to the shortage of BH providers, one mental health specialist was functioning in the role of a social worker, doing case management, described as handling adjustment reactions, financial concerns, and relationship issues.

One provider commented about the effects of combat on the behavioral health of Soldiers stating "there is a poor understanding of the significance of mental health to performance in the field. Mental health is the #1 reason for poor performance and leaving the field is stressful. We need commanders to understand this; it's a numbers game. The Army is driven by Infantry; driven by charging the hill without question even if you die. There is more demand for individual initiative in the Air Force and Navy. They have a tech focus – it's a grunt (Army) vs. hardware manager (AF and Navy). The Army is chewing people up. Soldiers may have PTSD but they won't tell their commanders. Commanders will rip them a new one if they have a mental health problem. That's got to change. It will keep more men in the field."

37. THEATER SUICIDE AND SUICIDE PREVENTION

37.1 Theater Suicide Rates

Although the raw number of suicides in Afghanistan is small, suicide continues to be a problem. Since the beginning of OEF, there have been 15 confirmed Army suicides. There were 3 confirmed suicides for 2007 as of 30 OCT 07, producing an annualized rate in theater of approximately 20/100,000[3]. Theater rates of suicide have held steady between 16 to 22 per 100,000 since 2002, and remain elevated compared to both the total Army rate and rates observed in the civilian population. This pattern did not exist in 2003 when the rate was significantly lower (8.3%). This section will discuss in detail what is known about the problem, and the present status of prevention efforts.

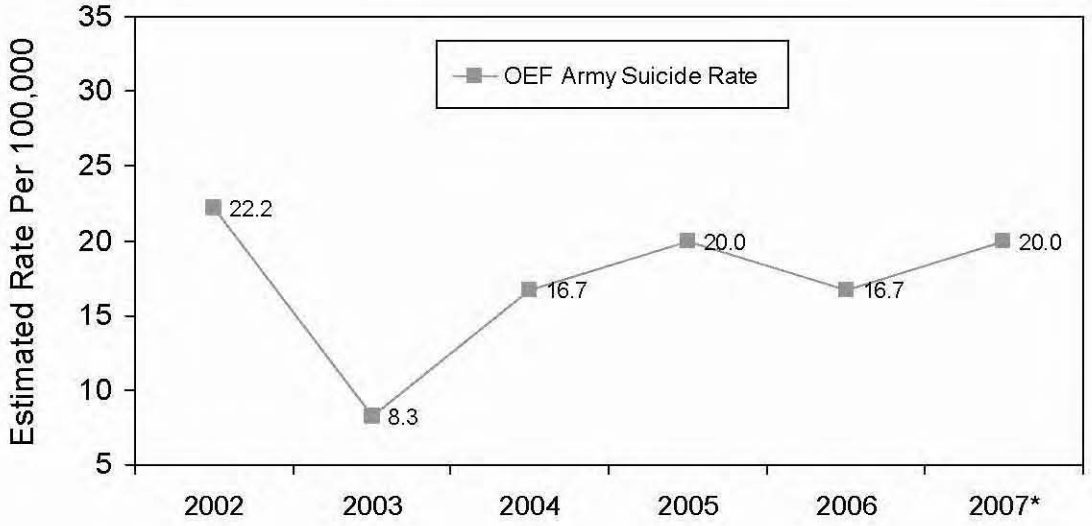


Figure 13: OEF Army Suicide Rates

*Estimated Rate as of 30 OCT 2007

The 10 year rate for suicide and average rate for the entire active duty Army suicide is presented in Table 24. There is no reliable method in place to collect and report Reserve and National Guard suicide data when personnel are not serving on active duty. As such, our discussion of these components is limited to their behavior when on active status.

The Army-wide suicide rate has been trending upward in recent years, driven in part by the increase in theater suicides. The total Army rate was 17.3 per 100,000 in 2006, up from the rate of 9.8/100,000 observed at the beginning of hostilities in 2001 (Table 24). The ten year average has thus been adjusted upward from the 11.6/100,000 number reported in MHAT IV to a 12.2/100,000 number for MHAT V.

[3] Calculated as of 30 OCT 07, based on the 3 OEF confirmed suicides this year to date. Estimates use an OEF average day "boots on the ground" total of 20,000 forces.

Table 24: US Army Suicide Rates - Ten Year Average (1997-2006)

Calendar Year	Rate per 100,000
1997	10.6
1998	12
1999	13.1
2000	12.1
2001	9.8
2002	11.3
2003	12.4
2004	10.8
2005	12.8
2006	17.3
Average 1997-2006	12.2
US Average	10.9*

*NIMH Population Average for 2004 (Latest Year Available)

37.2 Army Verses Total Forces Data

A great deal of information is available for Army suicides in Afghanistan. The Suicide Risk Management and Surveillance Office (SRMSO) at Fort Lewis, WA, collects detailed information on all Army Suicides via the web based Army Suicide Event Report (discussed below), and presents this information in a readily searchable format. The Army MEDCOM Suicide Prevention Office (SPO) at Fort Sam Houston has also performed detailed analysis of Army Suicides. The Army G-1 publishes weekly Suicide Updates which break out Army suicides in the Afghanistan theater of operation, and gives the status of confirmed versus probable cases.

37.3 Suicide Prevention Programs

The previous MHATs have reviewed the status of the OIF theater's suicide prevention and surveillance program, including an analysis of completed suicides. The MHAT V OEF conducted a similar review of (b)(2) prevention and surveillance program and a detailed analysis of completed suicides.

37.4 Suicide Prevention Structure

Unlike MNF-I, (b)(2) does not have a formalized Suicide Prevention Committee nor a standardized suicide prevention training package. Therefore, those responsible for conducting suicide prevention training, mainly Chaplains, are using a wide variety of training tools. These range from senior Chaplains doing Suicide Prevention Training with no materials other than "my 20+ years of working with Soldiers" to detailed briefs including one that uses a non-validated suicide intervention assessment tool. When asked about the effectiveness of the suicide prevention program in OEF, one BH provider responded "effective as it's ever been. Prevention – don't know how effective. It's ad nauseum. Soldiers don't need any more briefs. They could use interactive training, hands-on at the lowest level."

37.5 Theater Suicide Review

A summary of Army OEF theater suicides for 2007 was conducted by the MHAT V OEF team. As has been consistently true for reviews going back as far as 20 years (Rock, 1988), military suicide is most often precipitated by the loss of a relationship--either a spouse or other intimate partner.

Table 25. Profile of Confirmed OEF 2007 Soldier Suicides (As of 30 OCT 2007)

Date of Suicide	Age	Rank	MOS	Comp	Gender	Race/Ethnicity	Marital	Method
(b)(6)								

N = 3

A distant second cause implicated in suicide is loss of career, usually through UCMJ or other criminal charges. For the Active Army as a whole, people who committed suicide in 2007 are, on average, older and higher ranking than in previous years. For the first time in at least a decade, the majority of Army suicides (54%) were of rank E-5 or higher (although this was not the case for OEF 2007).

37.6 Army Suicide Event Report (ASER)

The primary tool for surveillance of Army suicide remains the Army Suicide Event Report (ASER); a reporting and tracking mechanism for completed suicides and non-lethal suicide events that result in hospitalization and/or evacuation. The ASER was developed and initial validation conducted by the U.S. Army Medical Research Unit-Europe, as a means to track suicides in near real-time and suicidal behaviors of Army personnel within the U.S. Army, Europe (USAREUR) (Dolan, Schroeder, Wright, Thomas, & Ness, 2003).

Following the recommendation of the first Mental Health Advisory Team (MHAT I) in 2003, the U.S. Army Medical Command issued a policy directing that the ASER be used throughout the Iraq and Afghanistan Theaters of Operations. The Suicide Risk Management & Surveillance Office (SRMSO) located at Fort Lewis, WA, has operational oversight of the ASER, conducts routine data analyses and publishes reports of these findings. The SRMSO also has responsibility for updating the ASER, with the latest update in the spring of 2007.

The SRMSO has issued guidance for completing ASERs. The ASER should be completed for all fatalities, hospitalizations, and evacuations when the injury or injurious intent is self-directed. It is not intended to replace the psychological autopsy, which is limited to fatalities in which the manner of death is uncertain (b)(5)

Quality control of ASERS in theater has remained problematic, both in submittal tracking and quality. This is due in large part to the mechanism of data entry, which is unique to the ASER. ASER information is directly entered into database fields using a web page based at Fort Lewis,

after which data automatically enters the ASER database. Once entered, auditing or editing submissions is not possible. Further, there has in the past been substantial difficulty in communication between the SRMSO office and theater.

Previous MHATs have reported that this issue has been corrected; therefore continued monitoring of the effectiveness of theater surveillance is warranted. Ideally, the ASER should be a component of AHLTA (Armed Forces Health Longitudinal Technology Application) and AHLTA-T (Armed Forces Health Longitudinal Technology Application - Theater), rather than a free standing web site. In this case, data could be inputted directly as medical information, which would allow quality control, auditing and review that is not presently possible in the current system.

37.7 Discussion

The US Public Health Service (1999) considers suicide risk and prevention in terms of relative *Risk Factors* and *Protective Factors for Suicide*. These factors have been adopted by the Centers for Disease Control (CDC) and are used to organize the discussion of suicide in Afghanistan.

37.7.1 Risk Factors

Risk Factors most relevant to Army suicide in Afghanistan are presented below:

6. **Loss (relational, social, work, or financial).** This has consistently been the key variable associated with suicide. It appears that long tour durations, in itself, do not increase rates of suicide. Rather, tour length serves as a secondary factor in provoking marital disruption and in kindling the loss of relationships. Aggressive efforts to strengthen families and improve communication are a logical remediation to this problem, as well as psychological resiliency training aimed at better weathering these break ups.

7. **Isolation, a feeling of being cut off from other people**. The Soldier survey assesses this directly by asking whether Soldiers are "Feeling Distant or Cut off from People". Results reveal that 47.2% of all Soldiers surveyed in OEF 2007 have experienced these feelings of isolation at least somewhat in the past month. Efforts by MWR to deliver mail, as well as enhance internet and phones, have probably helped in this dimension. However, this variable should continue to be monitored over time, and efforts to keep Soldiers feeling engaged in what is going on "back home" (e.g. Superbowl parties in theater) should be encouraged.

8. **Barriers to accessing behavioral health treatment.** As noted in the Soldier Well-Being section of this report, stigma to receiving behavioral health care, such as being seen as weak and barriers to receiving care, such as difficulty getting time off work for treatment were higher in OEF 2007 compared to OEF 2005 and OIF 2007. Ensuring that the climate promotes behavioral health care seeking and facilitates access to care may help get care for those who are having suicidal ideation.

37.7.2 Protective Factors

Protective factors for suicide buffer individuals from suicidal thoughts and behavior. To date, protective factors have not been studied as extensively or rigorously as risk factors. Identifying

and understanding protective factors are, however, equally as important as researching risk factors. Protective factors which act to reduce suicide probability in Afghanistan are listed below.

6. **Lack of Intoxicants**: Alcohol is a known risk factor for military suicides. The relative lack of availability of intoxicants in theater should therefore act to lower the rate of suicide. It has long been known that intoxicants make the act of suicide more likely through disinhibition effects. The National Violent Death Reporting System examined toxicology tests of those who committed suicide in 13 states. Postmortem tests of these cases revealed that 33.3% tested positive for alcohol; 16.4% for opiates; 9.4% for cocaine; 7.7% for marijuana; and 3.9% for amphetamines (Karch et al. 2006).

7. **Easy access to a variety of clinical interventions and support for help seeking.** Recent redistribution of troops in the battlespace calls for equally agile shifts in behavioral health support, which is a strong argument for locating the Theater BH Consultant at the (b)(2) Command Surgeon level. This also calls for increased efforts at destigmatization of seeking behavioral health care services.

8. **Family and community support.** Efforts to strengthen family and unit bonds should be encouraged, and the definition needs to be broadened to include significant others regardless of marital status (fiancée support).

9. **Skills in problem solving, conflict resolution.** Relationship enrichment and training, at both the Soldier and the Family Readiness Group (FRG) level, designed to improve communication will assist in re-integration and strengthening relationships. All available evidence supports stabilizing relationships as the single most effective suicide prevention intervention.

37.8 Surveillance

Each service uses its own unique tool for tracking suicides. The Air Force uses a system called the SESS, the Navy uses the DONSIR and the Coast Guard presently has no centralized reporting system. An effort is presently underway to expand the ASER from an Army system to a tri-service tool, to be called the DoDSER, which would greatly enhance surveillance.

38. SUMMARY, DISCUSSION, AND RECOMMENDATIONS

This section of the report first summarizes the key findings and then makes a series of recommendations.

38.1 Summary of OEF 2007 Soldier Well-Being Survey Findings

The summary of findings from the Soldier Well-Being survey are presented below.

1. OEF 2007 Soldiers in Brigade Combat Teams (BCTs) reported combat levels comparable to or higher than OIF 2007 Soldiers in BCTs. Combat levels are a key determinant of mental health status.

2. Deployment length and family separation were the top non-combat issues.

3. Soldier morale was similar to OIF 2007 but lower than OEF 2005.

4. OEF 2007 Soldiers had higher rates of mental health problems than OEF 2005 Soldiers and comparable or higher rates to OIF 2007 Soldiers.

5. Good leadership was a key factor in sustaining Soldier mental health and well-being.

6. OEF 2007 Soldiers with mental health problems reported more barriers to accessing behavioral health (BH) care than OIF 2007 Soldiers.

7. For OEF 2007 Soldiers with mental health problems, more reported receiving mental health care than OIF 2007 and OEF 2005 Soldiers.

8. Approximately 17% of OEF 2007 Soldiers reported taking mental health medications; one-half of those medications were sleep medications.

38.2 Summary of OEF Behavioral Health Personnel Findings

1. OEF BH personnel were predominantly Air Force (61%) and had significantly less time in theater than BH personnel in OIF.

2. OEF BH personnel supported more locations (30 vs. 9) and took more time to travel (including prep time) to locations (39 hrs vs. 8 hrs) than BH personnel in OIF.

3. OEF BH personnel conducted Combat & Operational Stress Control (COSC) outreach less often than BH personnel in OIF (conduct several times a week: OEF 17% vs. OIF 52%).

4. Major changes were made during and immediately following MHAT V OEF in terms of distribution of BH assets and conducting an aggressive outreach program. In addition, the (b)(2) Command Surgeon appointed the CSC Commander as the BH Consultant.

38.3 Summary of OEF Primary Care Personnel Findings

1. OEF PC personnel helped service members with MH problems as often as OIF PC personnel (40% at least weekly).

2. There was a trend toward OEF PC personnel referring service members with MH problems more often than OIF PC personnel (38% vs. 26% at least weekly).

38.4 Summary of OEF Unit Ministry Team Personnel Findings

1. OEF UMT personnel supported more locations (28 vs. 18) than in OIF.

2. OEF UMT personnel communicated less often with BH (OEF 17% frequently/always vs. 52%) and PC (62% frequently/always vs. 86%) personnel than OIF UMT personnel.

38.5 Summary of OEF Suicide Assessment

1. Since the beginning of OEF (DEC 2001), there have been 15 confirmed Army suicides. Theater rates of suicide have held steady between 16 to 22 per 100,000 since 2002 (except for 2003), and are higher than the total Army 10-year rate of 10.6 per 100,000.

2. There was no formal suicide prevention training program in OEF to ensure that Soldiers receive the latest standardized training.

3. There is no single, joint tracking system capable of monitoring suicide, mental health evacuations, and the use of mental health/combat stress control services in a combat environment.

38.6 Summary of TF (b)(2) Transition Team) Findings

1. Compared to (b)(2) Soldiers, TF (b)(2) Soldiers were older, higher ranking, more likely to be married, and in theater fewer months. They reported fewer combat experiences and less concern about deployment stressors. These factors are related to better mental health.

2. Compared to (b)(2) Soldiers, TF (b)(2) Soldiers had higher morale, were less likely to report mental health problems, reported less stigma and barriers to BH care; rated their leadership less favorably, and had a higher number of Soldiers using alcohol while in theater.

38.7 Discussion and Recommendations

Combat experiences and the resultant mental health problems in OEF 2007 were as high or higher than in OIF 2007 and generally higher than in OEF 2005. This is especially true for Soldiers in the Brigade Combat Teams who are doing the majority of the fighting. The OEF Theater of Operations has changed a great deal since OEF 2005. Based on what was observed in Afghanistan during OEF 2007 and what is being reported on the news, this trend of increased combat activity can be expected to continue. The fighting in Afghanistan became more intense in OEF 2007 as the war changed from static operations in OEF 2005 to the current counter-insurgency mission.

(b)(2)

(b)(2) There greater dispersement of troops and an increase in the number of locations where units are located. The increased number of Soldiers in OEF 2007 was not matched by an increase in the number of aviation assets needed to move Soldiers as well as get BH personnel out to the Soldiers.

Having more Soldiers and more locations with limited aviation assets makes it challenging to provide behavioral health care to Soldiers. Compounding this is the fact that OEF 2007 Soldiers report higher psychological stigma and organizational barriers to receiving behavioral health care than Soldiers in OIF 2007. Many of these barriers were related to transportation difficulties and the time required to get a BH provider out to the Soldiers or to get the Soldier in to the BH personnel. Additionally, there are service differences in the way BH care is being delivered in OEF 2007 compared to OIF 2007. Fortunately, the leadership at both the (b)(2) and the CSC were aware of these issues before MHAT V OEF mission and used the findings from MHAT V OEF to serve as a tool to make changes to BH care delivery in theater.

In making recommendations to optimize behavioral health we must assume (a) Soldiers will continue to be exposed to potentially traumatic events, (b) deployments will continue to be long, and (c) many Soldiers will be required to deploy to Afghanistan or Iraq multiple times during their military careers. MHAT V OEF recommendations are presented according to the phase of the deployment cycle in which they occur (i.e. During deployment or post-deployment/sustainment).

38.7.1 During Deployment:

An Infantry battalion that was located in one of the most dangerous areas of Afghanistan initiated a program in which Soldiers at the most remote Combat Outposts (COPs) rotated, as a unit, back to a more established FOB in order to re-set. This re-setting process allowed Soldiers time to get their equipment repaired, settle financial and/or personnel problems, do laundry, use internet and phones to communicate home, get hot showers, and have uninterrupted sleep. Additionally, Chaplains and behavioral health providers were available to talk to any Soldier who desired to do so. The key component of this re-setting program was that the Soldiers remained with their unit in a relatively safe place and did not have to pull their own security. Leaders, medical personnel, Chaplains and Soldiers all hailed this program as something that was valuable for their mental health and well-being.

Recommendation 1: Every 3 months and/or following significant events, rotate remote units back to more established FOBs for a minimum of 7 days (+ travel time) in order to allow them to re-set.

Overall, very few Soldiers were able to get R&R and those that did were primarily from the major FOBs where the combat level and mental health rates were low. R&R is a 3 or 4 day pass and is separate from mid-tour leave. Thus, those who were experiencing the highest levels of combat and therefore in most need of R&R, were the least likely to get it. This was due to many factors, including OPTEMPO in the line units, and difficulty getting Soldiers to and from R&R locations. Some units reported that a Soldier was normally away from the unit for 2 weeks so he or she could take 4 days of R&R due to transportation problems. Another reason few line Soldiers took R&R was they were unwilling to leave their buddies behind.

Recommendation 2: Re-structure R&R program to give priority to Soldiers working outside the basecamp.

Many Soldiers reported sleep problems including difficulty getting to sleep and having nightmares. Additionally, some Soldiers reported making mistakes due to sleepiness. Finally, half of all the medications being given to OEF 2007 Soldiers were sleep medications. As a result, sleep problems were identified as an important risk factor for

behavioral health and performance problems. Unlike other risk factors which may be largely unavoidable in combat settings (such as combat exposure), sleep deprivation and sleep problems are manageable either through work cycle management or medical treatment. In addition, seeking treatment for sleep problems may serve as an effective mechanism for Soldiers to receive care for a variety of mental health problems such as depression or acute stress because Soldiers report low stigma associated with sleep problems.

Appendix B presents the Combined Arms Doctrine Directorate (CADD) on sleep management. This document provides detailed information summarizing the research on sleep deprivation and performance and provides practical guidance on sleep management.

Recommendation 3: Develop and monitor work cycles using Combined Arms Doctrine Directorate (CADD) Sleep Management Guidance and encourage treatment seeking for sleep problems. The (CADD) is available through the (b)(2) Command Surgeon.

Traumatic events such as the death of a unit member have been shown to have the potential for causing mental health problems. Following the recommendation in MHAT IV, the Army Medical Command (MEDCOM) directed that the best practice for mental health debriefings following traumatic events was Battlemind Psychological Debriefings. Research conducted by the US Army found that Battlemind Psychological Debriefings immediately after a deployment resulted in reports of fewer symptoms of mental health problems in units that experienced high levels of combat.

Recommendation 4: Follow MEDCOM policy on in-theater Battlemind Psychological Debriefings after deaths, serious injuries and other significant events.

Both in past research and in OEF 2007, the level of combat experiences has been shown to be the major factor in Soldiers' mental health problems. Therefore, the units with the highest level of combat experiences are most likely to need early intervention in order to mitigate the effect of those experiences on Soldiers in those units.

Recommendation 5: Focus BH outreach on platoons with the highest levels of combat and conduct outreach using the Proximity, Immediacy, Expectancy and Simplicity (PIES) model.

US Air Force policy requires all personnel who travel outside the wire complete Combat Skills Training. This training includes convoy operations, IED detection and other important combat skills. However, if an Airmen is not able to complete the training, they are still able to deploy but are not required to leave the base camp in which they are assigned. The choice of whether an Airmen who did not receive Combat Skills Training goes outside the wire is left up to that Airmen. During OEF 2007, some Air Force BH personnel who had not completed the training refused to leave their base camp. This resulted in Service Members who needed BH care not getting that care.

Recommendation 6: Require BH providers from all services be qualified to travel throughout the theater in order to conduct outreach.

Soldiers reported during focus groups and interviews that they sought behavioral health care from Chaplains and medics at a rate similar to the rate that was reported for BH personnel. As of 31 October 2007 there were only 29 BH personnel in OEF 2007. BH personnel are assigned at the brigade level. However, the US Army modified Table of Organization and Equipment (mTOE) has one Chaplain in every battalion and a medic in every platoon.

Therefore there are many more Chaplains than BH personnel and an even greater number of medics in OEF 2007. They are often the conduits by which Soldiers enter the behavioral health system. However, many Chaplains and medics report having little or no formal behavioral health training. Battlemind Warrior Resiliency Training (formerly called Battlemind First Aid Training) was developed by the Walter Reed Army Institute of Research (WRAIR) to educate medics in identifying signs and symptoms of mental health problems and proper referral techniques for getting Soldiers behavioral health care.

Recommendation 7: Mandate all combat medics and Chaplains receive Battlemind Warrior Resiliency Training (formerly Battlemind First Aid Training) before deploying to OEF or OIF.

In September 2007 at the request of the (b)(2) Command Surgeon, the senior BH provider from the CSC (b)(2) was appointed as the Behavioral Health Consultant to the (b)(2) Command Surgeon. It was identified that the BH Consultant should be in a position with authority and knowledge of the OEF theater in order to relocate BH assets to areas of highest need. Previously the senior provider was not in a position to authorize reassignments. Immediately following the MHAT V OEF mission, the (b)(2) Command Surgeon implemented recommendation 8 by appointing the CSC Commander as the BH Consultant.

Recommendation 8: Appoint a behavioral health consultant to the Command Surgeon who has the knowledge of the theater and the authority to assign BH personnel.

38.7.2 Post-Deployment/Sustainment

As previously noted, the level of combat that a Soldier experiences is the most important factor in whether that Soldier develops mental health problems. Research conducted by the Walter Reed Army Institute of Research (WRAIR) has shown that training such as Battlemind may be most effective in some units with high levels of combat experiences than in others with fewer combat experiences.

Recommendation 9: Tailor interventions to units based on their level of combat experiences.

There is evidence that resiliency training works. This evidence comes from large randomly controlled experiments of Battlemind Training (Adler et al., in review; Thomas et al., 2007). Therefore, the current MHAT supports the existing Battlemind resiliency training programs (many of which were recommended in MHAT IV and subsequently implemented by the Army).

Recommendation 10: To facilitate Soldiers reintegrating with their families and transitioning home, ensure Soldiers receive mandated Post-Deployment Battlemind Training.

Recommendation 11: Provide Spouse/Couples Battlemind Training to improve relationships and facilitate transitioning home.

One of the key protective factors for sustaining the mental health and well-being of the deployed force lies with developing junior leaders so that they recognize the important role they play in sustaining the morale and mental well-being of their Soldiers and reducing the stigma and barriers to seeking BH care. Soldiers who rate NCO leadership positively have lower levels of mental health problems than those who rate NCO leadership negatively

regardless of the level of combat experiences. This pattern is also found when examining the impact of officer leadership on mental health rates, controlling for combat experiences. Those leader behaviors that have been shown to be effective for sustaining morale, well-being, and mental health in combat need to be taught at the Warrior Leader Course and the Officer Basic Course.

Recommendation 12: Require NCO and Junior Officers receive Battlemind for Junior Leaders Training

Recommendation 13: Educate and train NCOs and Officers about the important role they play in maintaining Soldier mental health and well-being and reducing stigma/barriers by including behavioral health awareness training in ALL leader development.

Educating leaders about their role in setting a climate that supports seeking behavioral health care is very important. Additionally, leader evaluations should include benchmarks to assess the degree to which they (as leaders) set a climate that is conducive to receiving BH care or one that promotes stigma and barriers to care.

Recommendation 14: Hold leaders accountable for directly or indirectly demeaning Soldiers that seek behavioral health resources.

38.7.3 Suicide Prevention

There was no formalized suicide prevention training in OEF 2007. Additionally, the training that was being provided was not necessarily designed for the deployment phase of the Deployment Cycle Support System.

Recommendation 15: Tailor suicide prevention training packages focused on the phase of deployment and aimed at building psychological resiliency. Ensure that the training is scenario-based and includes buddy-aid and leader actions.

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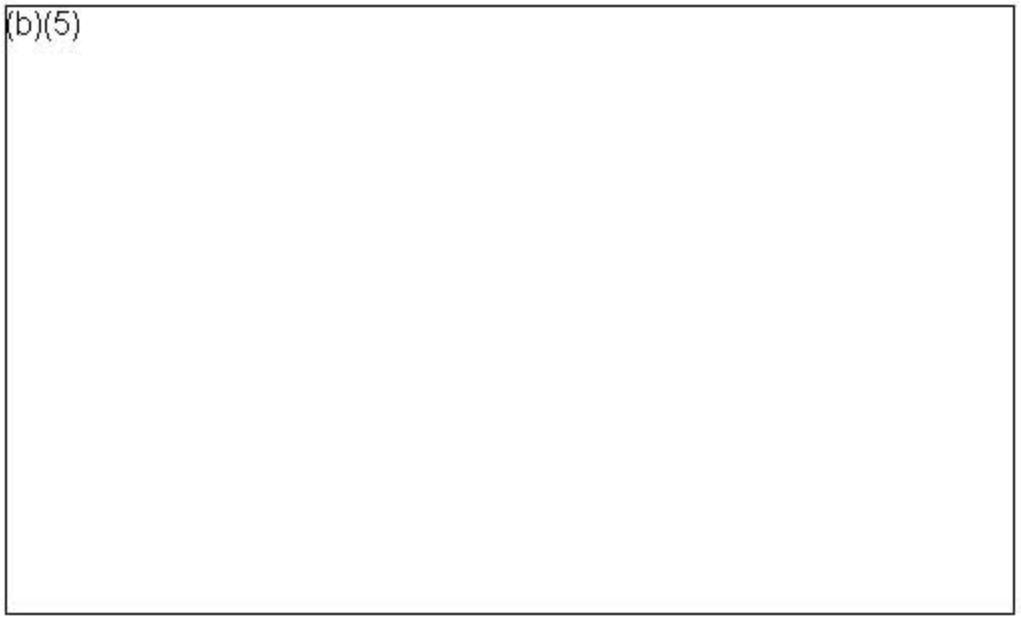
40. APPENDIX A: DATA HANDLING

(b)(5)


(b)(5)

41. APPENDIX B: SLEEP MANAGEMENT

Sleep Deprivation

This sleep guidance is provided by the Walter Reed Army Institute of Research, and supported by extensive research. This guidance is based on current research as of September, 2007. Unit sleep plans should be based on this guidance.

OVERVIEW

A-1. Sleep is a biological need, critical for sustaining the mental abilities needed for success on the battlefield. Soldiers require 7 to 8 hours of good quality sleep every 24-hour period to sustain operational readiness. Soldiers who lose sleep will accumulate a *sleep debt* over time that will seriously impair their performance. The only way to *pay off* this debt is by obtaining the needed sleep. The demanding nature of military operations often create situations where obtaining sleep may be difficult or even impossible for more than short periods. While essential for many aspects of operational success, sheer determination or willpower cannot offset the mounting effects of inadequate sleep.

A-2. Therefore, sleep should be viewed as being as critical as any logistical item of resupply, like water, food, fuel, and ammunition. Commanders need to plan proactively for the allocation of adequate sleep for themselves and their subordinates.

A-3. Individual and unit military effectiveness is dependent upon initiative, motivation, physical strength, endurance, and the ability to think clearly, accurately, and quickly. The longer a Soldier goes without sleep, the more his thinking slows and becomes confused, and the more mistakes he will make. Lapses in attention occur and speed is sacrificed in an effort to maintain accuracy. Degradation in the performance of continuous work is more rapid than that of intermittent work.

A-4. Tasks such as requesting fire, integrating range cards, establishing positions, and coordinating squad tactics are more susceptible to sleep loss than well-practiced, routine physical tasks such as loading magazines and marching. Without sleep, Soldiers can perform the simpler and/or clearer tasks (lifting, digging, and marching) longer than more complicated tasks requiring problem-solving, decision-making, or sustained vigilance. For example, Soldiers may be able to accurately aim their weapon, but not select the correct target. Leaders should look for erratic or unreliable task performance and declining planning ability and preventive maintenance not only in subordinates, but also in themselves as indicators of lack of sleep

A-5. In addition to declining military performance, leaders can expect changes in mood, motivation, and initiative as a result of inadequate sleep. Therefore, while there may be no outward signs of sleep deprivation, Soldiers may still not be functioning optimally.

SLEEPING IN THE OPERATIONAL ENVIRONMENT

A-6. For optimal performance and effectiveness, 7 to 8 hours of good quality sleep per 24 hours is needed. As daily total sleep time decreases below this optimum, the extent and rate of performance decline increase.

A-7. Basic sleep scheduling information for planning sleep routines during all activities (predeployment, deployment, precombat, combat, and postcombat) is provided in Table A-1. Basic sleep environment information and other related factors are provided in Table A-2.

Table A-1. Basic sleep scheduling factors

FACTOR	*EFFECT*
Timing of Sleep Period	• Because of the body's natural rhythms (called "circadian" rhythms), the best quality and longest duration sleep is obtained during nighttime hours (2300-0700). • These rhythms also make daytime sleep more difficult and less restorative, even in sleep-deprived Soldiers. • Advancing sleep times (such as earlier in the evening) impairs the ability to fall and stay asleep. • This is why eastward travel across time zones initially produces greater deficits in alertness and performance than westward travel.
Duration of Sleep Period	• **IDEAL** sleep period equals 7 to 8 hours of continuous and uninterrupted nighttime sleep each and every night. • **MINIMUM** sleep period—There is no minimum sleep period. Anything less than 7 to 8 hours per 24 hours will result in some level of performance degradation.
Napping	• Although it is preferable to get all sleep over one sustained 7 to 8 hour period, sleep can be divided into two or more shorter periods to help the Soldier obtain 7 to 8 hours per 24 hours. Example: 0100-0700 hours plus nap 1300-1500 hours. • Good nap zones (when sleep onset and maintenance is easiest) occur in early morning, early afternoon, and nighttime hours. • Poor nap zones (when sleep initiation and maintenance is difficult) occur in late morning and early evening hours when the body's rhythms most strongly promote alertness. • Sleep and *rest* are not the same. While *resting* may briefly improve the way the Soldier feels, it does not restore performance the way sleep does. • There is no such thing as *too much sleep*—mental performance and alertness always benefit from sleep. • Napping and sleeping when off duty are not signs of laziness or weakness. They are indicative of foresight, planning, and effective human resource management.
Prioritize Sleep Need by Task	• **TOP PRIORITY** is leaders making decisions critical to mission success and unit survival. Adequate sleep enhances both the speed and accuracy of decision-making. • **SECOND PRIORITY** is Soldiers who have guard duty, who are required to perform tedious tasks such as monitoring equipment for extended periods, and those who judge and evaluate information. • **THIRD PRIORITY** is Soldiers performing duties involving only physical work.
Individual Differences	• Most Soldiers need 7 to 8 hours of sleep every 24 hours to maintain optimal performance. • Most leaders and Soldiers underestimate their own total daily sleep need and fail to recognize the effects that chronic sleep loss has on their own performance.

Table A-2. Basic sleep environment and related factors

Ambient Noise	• A quiet area away from intermittent noises/disruptions is **IDEAL**. • Soldiers can use earplugs to block intermittent noises. • Continuous, monotonic noise (such as a fan or *white noise*) also can be helpful to mask other environmental noises.
Ambient Light	• A completely darkened room is **IDEAL**. • For Soldiers trying to sleep during daytime hours, darken the sleep area to the extent possible. • Sleep mask/eye patches should be used if sleep area cannot be darkened.
Ambient Temperature	• Even small deviations above or below comfort zone will disrupt sleep. • Extra clothing/blankets should be used in cold environments. • Fans in hot environments (fan can double as source of white noise to mask ambient noise) should be used.
Stimulants (Caffeine, Nicotine)	• Caffeine or nicotine use within 4 to 6 hours of a sleep period will disrupt sleep and effectively reduce sleep duration. • Soldier may not be aware of these disruptive effects.
Prescription Sleep-Inducing Agents (such as: Ambien®, Lunesta®, and Restoril®)	• Sleep inducers severely impair Soldiers' ability to detect and respond to threats. • Sleep inducers should not be taken in harsh (for example, excessively cold) and/or unprotected environments. • Soldiers should have *nonwork* time of at least 8 hours after taking a prescribed sleep inducer.
Things That do not Improve or Increase Sleep	• Foods/diet—no particular type of diet or food improves sleep, but hunger and thirst may disrupt sleep. • Alcohol induces drowsiness but actually makes sleep worse and reduces the duration of sleep. • Sominex®, Nytol®, melatonin, and other over-the-counter sleep aids induce drowsiness but typically have little effect on sleep duration and are, therefore, of limited usefulness. • Relaxation tapes, music, and so forth may help induce drowsiness but they do not improve sleep.

MAINTAINING PERFORMANCE DURING SUSTAINED OPERATIONS/CONTINUOUS OPERATIONS

A-8. Cold air, noise, and physical exercise may momentarily improve a Soldier's feeling of alertness, but they do not improve performance.

A-9. The only countermeasures that effectively improve performance during sleep loss are stimulants (caffeine and prescription stimulants including Dexedrine® and Provigil®). However, these countermeasures are only effective in restoring performance for short periods (2 to 3 days), and they do not restore all aspects of performance to normal levels. Caffeine is just as effective as the prescription stimulants.

CAFFEINE COUNTERMEASURE

A-10. Pharmacological countermeasures such as caffeine are for **short-term use only (2 to 3 days) and do not replace sleep**.

A-11. Caffeine occurs in varying content in a number of drinks, gums, and nonprescription stimulants:

- 12 ounces (oz) caffeinated soda: 40 to 55 mg.
- No-Doz®: 1 tablet: 100 mg.
- Vivarin®: 1 tablet/caplet: 200 mg.
- Caffeine gum (StayAlert®): 1 piece: 100 mg.
- Jolt® cola: 71 mg.
- Red Bull® Energy Drink (8.3 oz): 80 mg.

Note: liquids will increase urine output, which may result in interrupted sleep. To avoid this, caffeine should be ingested in pill, tablet, or other nonliquid forms.

A-12. Sleep loss effects are most severe in the early morning hours (0600—0800). Countermeasures against sleep loss, such as caffeine, are often required and are very effective during this early morning lull.

A-13. Table A-3 below summarizes advice on using caffeine to maintain performance when there is no opportunity for sleep. Clock times provided are approximate and can be adapted to individual circumstances.

Table A-3. Using caffeine under various conditions of sleep deprivation

Condition Under Which Caffeine Is Used	*Guidelines for Use*
Sustained Operations (No Sleep)	• 200 milligrams (mg) starting at approximately midnight. • 200 mg again at 0400 hours and 0800 hours, if needed. • Use during daytime hours only if needed. • Repeat for up to 72 hours.
Night Shifts with Daytime Sleep	• 200 mg starting at start of nighttime shift. • 200 mg again 4 hours later. • Last caffeine dose: No sooner than 6 hours before sleep (for example, last dose at 0400 hours if daytime sleep is anticipated to commence at 1000 hours).
Restricted Sleep	• 200 mg upon awakening. • 200 mg again 4 hours later. • Last caffeine dose: No sooner than 6 hours before sleep.

SLEEP RECOVERY

A-14. Ultimately, the Soldier must be allowed recovery sleep. Following a single, acute (2 to 3 days) total sleep loss, most Soldiers will usually recover completely if allowed a 12-hour recovery sleep period, preferably during the night.

A-15. Following chronic, restricted sleep during continuous operations, Soldiers may need several days of 7 to 8 hours nightly sleep to fully recover.

WORK SCHEDULES

A-16. Usual work schedules are 8 hours on/16 hours off. Sixteen hours off allows enough time to attend to maintenance duties, meals, personal hygiene, and so forth, while still obtaining 7 to 8 hours of sleep.

A-17. To the extent possible, commanders should attempt to consolidate their own and Soldiers' off-duty time into a single, long block to allow maximum sleep time. If the usual 8 hours on/16 hours off schedule are not possible, the next best schedule is 12 hours on/12 hours off. In general, 12 hours on/12 hours off is superior to 6 hours on/6 hours off, and 8 hours on/16 hours off is superior to 4 hours on/8 hours off. This is true because time off is consolidated into a single, longer block.

A-18. **On/off shifts should total 24 hours**. Shifts that result in shorter or longer *days* (such as 6 hours on/12 hours off—an 18-hour day) will impair Soldier alertness and performance.

NIGHT SHIFT WORK

A-19. In general, Soldiers will not adapt completely to night shift work, even if they are on a fixed night shift.

A-20. To protect Soldiers' daytime sleep, the commander should not attempt to schedule briefings, meals, and Soldiers' routine maintenance duties during the Soldiers' sleep time.

A-21. Caffeine can be used during the night shift to improve performance.

A-22. Morning daylight exposure in night shift workers coming off shift should be avoided by wearing sunglasses from sunrise until the Soldier commences daytime sleep.

TIME ZONE TRAVEL

A-23. Trying to *preadapt* sleep and performance to a new time zone by changing sleep/wake schedules ahead of time to fit the new time zone is of little benefit.

A-24. During travel, Soldiers should not be awakened for meals (for example, while in flight to a new location). This sleep time should be protected.

A-25. After deploying to a new time zone, sleep and performance will not adapt for several days. During this time, Soldiers might also experience gastrointestinal disturbances and find it difficult to fall asleep and stay asleep at night.

A-26. When reaching the new time zone, Soldiers should—

- **Immediately conform to the new time zone schedule (**for example, for those on day work, sleep only at night).
- **Avoid daytime naps**. Sleeping during the day will make it more difficult to sleep that night and to adapt to the new time zone.
- **Use caffeine during the day** (morning and only through early afternoon) to help maintain performance and alertness.
- **Stay on a fixed wake-up and lights-out schedule, t**o the extent possible.

SPECIFIC SLEEP LOSS EFFECTS

A-27. Sleep loss makes the Soldier more susceptible to falling asleep in an environment with little stimulation (such as guard duty, driving, or monitoring of equipment). This is especially important when considering tasking sleep deprived Soldiers for guard duty during evening and early morning shifts. Leaders should be aware that putting Soldiers on guard duty who are sleep deprived or in a sleep deficit places those Soldiers at high risk of falling asleep while conducting this mission-critical duty. Commanders should consider the level of their Soldiers' sleep deprivation when establishing guard duty rosters. When significant sleep loss exits, leaders should consider altering the length of duty or manning guard posts with *teams* of two or more to maximize security efforts.

A-28. Even in high tempo environments, sleep loss directly impairs complex mental operations such as (but not limited to)—

- **Orientation with friendly and enemy forces** (knowledge of the squad's location).
- **Maintaining camouflage, cover, and concealment**
- **Coordination and information processing** (coordinating firing with other vehicles and dismounted elements).
- **Combat activity** (firing from bounding vehicle, observing the terrain for enemy presence).
- **Force preservation and regrouping** (covering disengaging squads and conducting reconnaissance).
- **Command and control activity** (directing location repositioning, directing mounted defense, or assigning fire zones and targets).

A-29. Soldiers suffering from sleep loss can perform routine physical tasks (for example, loading magazines and marching) longer than more complex tasks (for example, requesting fire and establishing positions), but, regardless of the Soldier's motivation, the performance of even the simplest and most routine task will eventually be impaired.

A-30. With long-term (weeks, months) chronic sleep restriction, mood, motivation, and initiative decline. The Soldier may neglect personal hygiene, fall behind on maintaining equipment, be less willing to work or less interested in work, and show increased irritability or negativity.

A-31. Sleep-deprived commanders and Soldiers are poor judges of their own abilities.

A-32. Sleep loss impairs the ability to *quickly* make decisions. This is especially true of decisions requiring ethical judgment. If given enough time to think about their actions, Soldiers will tend to make the same decision when sleep deprived that they would make when fully rested. However, when placed in a situation in which a snap judgment needs to be made, such as deciding to fire on a rapidly approaching vehicle, sleep deprivation may negatively impact decision making.

DETERMINING SLEEP LOSS IN THE OPERATIONAL ENVIRONMENT

A-33. Sleep can be measured by having Soldiers keep a sleep log, but compliance is likely to be very low and reliability is poor.

A-34. The best way to evaluate a Soldier's sleep status is to observe his behavior. Indications of sleep loss include, but are not limited to increased errors, irritability, bloodshot eyes, difficulty understanding information, attention lapses, decreased initiative/motivation, and decreased attention to personal hygiene.

A-35. Sleep loss can be confirmed by asking the obvious question: "When did you sleep last and how long did you sleep?" or "How much sleep have you gotten over the last 24 hours?" The commander or leader should direct this question not only to his Soldiers, but to himself as well.

A-36. Sleep-deprived Soldiers may be impaired despite exhibiting few or no outward signs of performance problems, especially in high tempo situations. The best way to ensure that soldiers are getting enough sleep is for leaders to establish schedules that provide at least 7 to 8 hours of sleep in 24 hours.

COMMON MISCONCEPTIONS ABOUT SLEEP AND SLEEP LOSS

A-37. It is commonly thought that adequate levels of performance can be maintained with only 4 hours of sleep per 24 hours. In fact, after obtaining 4 hours of sleep per night for 5 to 6 consecutive nights a Soldier will be as impaired as if he had stayed awake continuously for 24 hours.

A-38. Another misconception is that Soldiers who fall asleep at inappropriate times (for example, while on duty) do so out of negligence, laziness, or lack of willpower. In fact, this may mean that the soldier has not been afforded enough sleep time by his unit leaders.

A-39. It is common for individuals to think that they are less vulnerable to the effects of sleep loss than their peers either because they *just need less sleep* or because they are better able to *tough it out*. In part, this is because the Soldier who is sleep deprived loses the self-awareness of how his performance is impaired. Objective measures of performance during sleep loss in such persons typically reveal substantial impairment.

A-40. Some individuals think that they can *sleep anywhere* and that they are such *good sleepers* that external noise and light do not bother them. However, it has been shown that sleep is invariably lighter and more fragmented (and thus less restorative) in noisy, well-lit environments (like the tactical operations center). Sleep that is obtained in dark, quiet environments is more efficient (more restorative per minute of sleep).

A-41. Although it is true that many people habitually obtain 6 hours of sleep or less per night, it is not true that most of these people only *need* that amount of sleep. Evidence suggests that those who habitually sleep longer at night tend to generally perform better and tend to withstand the effects of subsequent sleep deprivation better than those who habitually obtain less sleep.

42. APPENDIX C: JOINT ACRONYMS

68X	Behavioral Health Technician
68W	Medic
82nd	82nd Airborne Division
173rd	173rd Airborne Brigade Combat Team
AARs	After Action Reviews
AD	Armored Division
ADHD	Attention Deficit Hyperactivity Disorder
AFIP	Armed Forced Institute of Pathology
AFME	Armed Forces Medical Examiner
AIT	Advanced Individual Training
AHLTA-T	Armed Forces Health Longitudinal Technology Application-Theater
AMEDD	Army Medical Department
ANCOC	Advanced Non-Commissioned Officers Course
AO	Area of Operations
AOC	Area of Concentration
ASER	Army Suicide Event Report
ASI	Additional Skill Indicator
ASIST	Applied Suicide Intervention Skills Training
ASMC	Area Support Medical Company
BCT	Brigade Combat Team
BDE	Brigade
BH	Behavioral Health
BHO	Behavioral Health Officer
BN	Battalion
BNCOC	Basic Non-Commissioned Officers Course
BTTs	Border Transition Teams
BUMED	Bureau of Medicine & Surgery
BUPERS	Bureau of Personnel
C-1	Corps Personnel
CAV	Calvary
CDC	Center for Disease Control
CDR	Commander
CG	Commanding General
CID	Criminal Investigations Division
CJTF-82	Combined Joint Task Force-82nd Airborne Division
CME	Continued medical education
CNN	Cable News Network
COL	Colonel
CONUS	Continental United States
COP	Coalition Outpost
COSC	Combat and Operational Stress Course
COSC MTT	Combat Operational Stress Control Mobile Training Teams
COSR	Combat and Operational Stress Reaction
COSC-WARS	Combat and Operational Stress Workload Activity Reporting System
CSC	Combat Stress Control
CSH	Combat Support Hospital

CSM	Command Sergeant Major
CSTC-A	Combined Security Transition Command-Afghanistan
DA	Department of Army
DIV	Division
DOD	Department of Defense
DOD	Department of Defense
DODSER	Department of Defense Suicide Evaluation Report
DONSIR	Department of the Navy Suicide Investigation Report
E1-E4	Junior Enlisted Soldiers
EKG	Electro Cardio Gram
EMR	Electronic medical record
EPICON	Epidemiological Consultation
FOB	Forward Operating Base
FORSCOM	Force Command
FRAGO	Fragmentary Order
FRG	Family Readiness Group
G-1	Army Personnel
GLMMs	Generalized Linear Mixed Effects Models
HQDA	Headquarters, Department of the Army
HQMC	Headquarters, Marine Corps
IBA	Inter-ballistic Armor
ID	Infantry Division
IED	Improvised Explosive Device
IN	Infantry
ITO	Iraqi Theater of Operations
J1	Joint Staff, Personnel
J3	Joint Staff, Operations
JAG	Judge Advocate General
MAJ	Major
MC4	Medical communications for combat casualty care
MED	Medical
MEDCOM	Medical command
MH	Mental Health
MHAT	Mental Health Advisory Team
MiTTs	Military Transition Teams
MNC-I	Multi National Corps Iraq
MND	Multi National Division
MND-B	Multi National Division- Baghdad
MND-C	Multi National Division- Center
MND-SE	Multi National Division- Southeast
MND-W	Multinational Division-West
MNF-I	Multi National Force Iraq
MOS	Military Occupational Specialty
MP	Military Police
MRMC	Medical research and Material Command
MTF	Military Treatment Facility
MTBI	Mild Traumatic Brain Injury
MTOE	Mission Table of Organization and Equipment
MTTs	Military Transition Teams
MWR	Morale, Welfare, and Recreation
NCO	Non-Commissioned officers

NCOIC	Non Commissioned Officer in Charge
NIMH	National Institute of Mental Health
NMRC	Naval Medical Research Center
NPTT	National Police Training Team
OBC	Officer Basic Course
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OPNAV	Office of the Chief of Naval Operations
OPTEMPO	Operating/Operations Tempo
OP	Out-Patient
OT	Occupational Therapy
OTSG	Office of the Surgeon General
PC	Primary Care
PCL	Post-Traumatic Stress Disorder Checklist
PDHA	Post-Deployment Health Assessment
PDHRA	Post-Deployment Health Re-assessment
PHQ-D	Patient health questionnaire depression
PROFIS	Professional Officer Filler Information System
PT	Physical Training
PTSD	Post Traumatic Stress Disorder
R&R	Rest & rehabilitation
RIP-TOA	Relief in Place/Transfer of Authority
ROE	Rules of Engagement
SCR	Stryker Calvary Regiment
SESS	Air Force Suicide Events Surveillance System
SGM	Sergeant Major
SGT	Sergeant
SIG	Signal
SM	Soldier Member
SME	Subject Matter Expert
SOP	Standing Operating Procedure
SPO	Suicide Prevention Officer
SPSS	Statistical Package for the Social Sciences
SRMSO	Suicide Risk Management & Surveillance Office
SSG	Staff Sergeant
TBI	Traumatic Brain Injury
TECOM	Training and Education Command
TF	Task Force
TRADOC	Training and Doctrine Command
UBHNAS	Unit Behavioral Health Needs Assessment
UCMJ	Uniformed Code of Military Justice
UMT	Unit Ministry Team
UNA	Unit Needs Assessment
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAF	US Air Force
USAMRU-E	US Army Medical Research Unit-Europe
USN	US Navy
USAREUR	U.S. Army, Europe
VBIED	Vehicle Borne Improvised Explosive Device
WLC	Warrior Leader Course
WISQARS	Web-based Inquiry Statistics Query and Reporting System

WO	Warrant Officer
WRAIR	Walter Reed Army Institute of Research